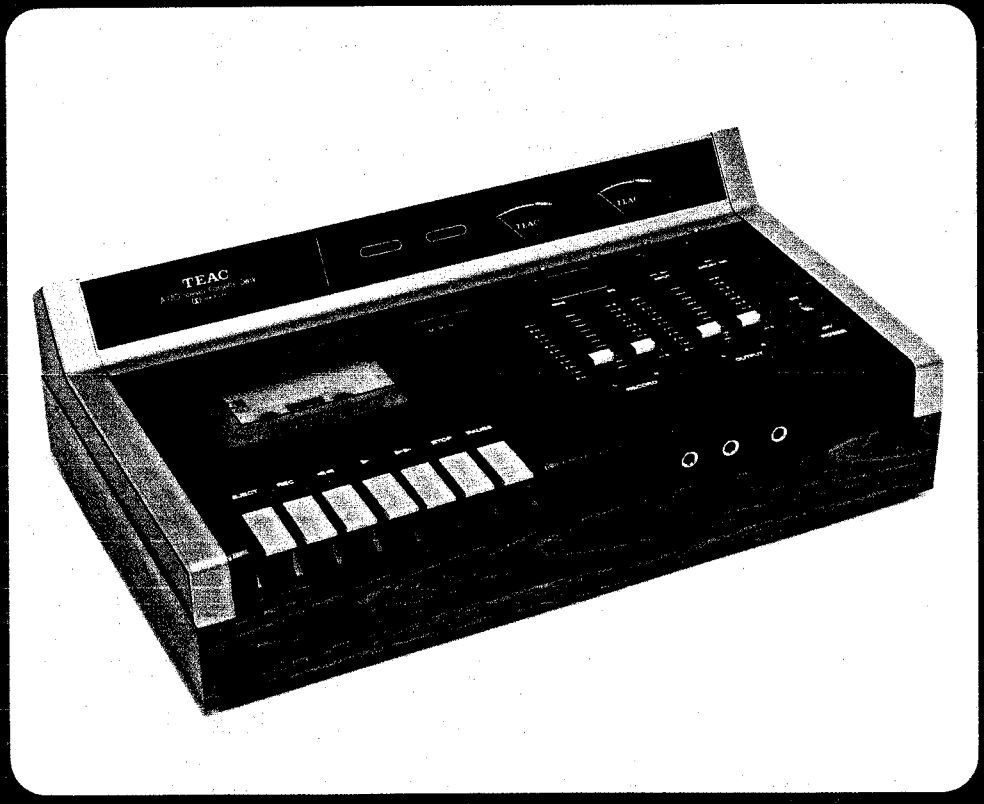
SERVICE MANUAL

A-170



TEAC

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Test Equipment & General Precautions

The Service Technician is an important link between our engineers and our customers. We, therefore, recognize the obligation we have to the service technicians throughout the world to provide clear, accurate service data. Just as we are continually striving to improve our products, so we are always reviewing the needs of our service personnel to provide the most up to date data available.

Although we appreciate the many favorable comments we receive, we also welcome questions and suggestions from the field.

Feel free to contact us at any of the offices printed on the back cover of this manual if any procedure seems too difficult to do or to understand.

This manual is written to provide a guide for the skilled technician to make the preliminary checks and adjustments on the deck and includes instructions for the replacement of many of the parts and ordering information. A block diagram of the deck is provided to help explain the overall operation and functions of the A-170. A schematic diagram is included to help in detailed trouble-shooting.

The service data in this manual is intended for qualified service personnel and as such may be more detailed than information contained in advertising material or that found in the Owner's Manual.

The service data is subject to change with the incorporation of future improvements or modifications.

All dB values in these tests refer to 0 dB = 0.775 V. If the test equipment you are using is calibrated for 0 dB = 1 V appropriate compensation should be made. If you are using a meter that does not have a dB scale, refer to the TEAC DECIBEL TABLE distributed previously to obtain conversion of millivolts to dB.

Test Equipment & Tools

Test Tapes

For Playback Measurement:

MTT-150 Dolby Level Calibration Tone Tape. **(400 Hz)**

MTT-111 Tape speed & wow/flutter (3,000 Hz)

MTT-116L for Frequency Response (40 Hz – 10 kHz)

For Recording Measurement:

MTT-505 for BIAS 1/EQ 1

MTT-501 for BIAS 2/EQ 2

Spring Scale:

0 to 70 g, 0 to 400g

Frequency Generator:

range 10 Hz – 100 kHz

VTVM: ranges from 0.1mV – 300V

Distortion Analyser:

Base frequency: 400 Hz – 1 kHz

Oscilloscope: Sensitivity: 10mV/cm division, ranges from DC to 250 kHz

Wow & Flutter Meter

Meguro Denpa Co., Model MK-668A, D & R Co., FL-4B or equivalent

Digital Frequency Counter: 10Hz – 100kHz

Bandpass Filter: 1 kHz

Other equipment:

Headphone: plug and general tools

Precaution

** Before performing any maintenance on the unit, all metal parts that the tape will come into contact with must be cleaned and demagnetized.

** For avoiding any damages it is very necessary to check that AC power line voltage of your deck matches with that in your locality.

** Standard Test Tapes and Test Equipment must be used when performing maintenance to insure reliable results.

** Procedures for preliminary checks and adjustments, unless otherwise indicated, are for the left channel.

** The output load must, unless otherwise noted, be 50 kohms or more.

** Input impedance of VTVM that is to be a load to a Dolby test point must always be more than 1 megohms.

Special Terms

The following defined terms are used in a special sense in the manual.

** **Specified Output Setting** defines the position of the Output control that gives a +3 dB level at the OUTPUT jacks when the MTT-150 test tape (Dolby Level Calibration Tone Tape) is played back and the Dolby Amplifier is set for 580 mV output at the Dolby Test Points. This setting will give a specified output level when playing back any properly recorded tape.

** **Specified Input (RECORD) Setting** defines the position of the Input controls that gives an output of 580 mV at the Dolby Test Points when a -9 dB, 400 Hz sinewave signal is applied to the LINE IN jacks, a –57 dB level is applied to the MIC jack or a –25 dB level is applied to the DIN input connector. The controls position may vary depending on the Input terminals being used. However, measurements performed in this manual are done with the RECORD controls set at the position determined when using the LINE IN jack.

** 0dB refers to a level of 0.775V throughout this manual.

** **THD** denotes total harmonic distortion for overall tape, head and amplifier system measurement.

Specifications & Service Data

Specifications

Track System	1/4-track, 2-channel
Type of Tape	Cassette tape, C-60 and C-90 (Philips type)
Tape Speed	4.8 cm/s (1-7/8 ips)
Inputs (impedance and level)	Microphones: Min. input level: −67 dB (0.345 mV) ±3 dB (10 Kohms or more, applicable standard: 600 ohms - 10 kohms). Line: Specified input level: −9 dB (274 mV) (50 Kohms or more) Min input level: −19 dB (86 mV) ±3 dB * DIN: Min. input level: −35dB (13.7 mV) ±2 dB
Outputs (impedance and level)	Line out: Max. output level: +8 dB (1.94 V) ±2 dB (50 Kohms) Specified output level: +3 dB (1.09 V) Headphones: Specified output level: −21 dB (69.0 mV) ±3 dB(8 ohms)
Equalization	EQ 1: 3180 μs +70 μs (for CrO_2 tape) EQ 2: 3180 μs +120 μs (for regular Hi-Fi tape)
Head Configuration	1/2-track, 1-channel Erase Head 1/4-track, 2-channel Record/Playback Head
Motor	DC Servo Motor with F.G. voltage control
Bias Frequency	100 kHz
Operating Position	Horizontal
Power Requirements	100/117/220/240V AC, 50/60 Hz (General Export Models) 117V AC 60 Hz (USA/Canada Models) 220V AC 50 Hz (Europe Models)
Power Consumption	8 W
Dimensions	430 (W) x 136 (H) x 255 (D) mm [16-15/16" (W) x 5-3/8" (H) x 8-7/8" (D)]
Weight	4.5 kg (10 lbs) net, approx.
	* Pursuant to DIN Standards

Service Data

Mechanical

Tape Speed Deviation	3,000 Hz ± 45 Hz
Wow and Flutter	Playback: 0.12% (WRMS)
Pinch Roller Pressure	400 g ±20 g (14 oz)
Reel Torque	Take up: 45 – 70 g (1.5 - 2.5 oz) Fast Forward: 30 g-cm Rewind: 100 g-cm or more
Fast Winding Time	90 seconds for C-60
End-stop Activate Time	4 seconds ±2 sec.

Electrical

Frequency Response	Refer to frequency response limits charts on pp. 11, 13.
Signal to Noise Ratio	Playback method: 47 dB (minimum) Record/Playback Method: BIAS/EQ 1: 45 dB minimum BIAS/EQ 2: 44 dB minimum
Erase Efficiency	65 dB minimum
Channel Separation	30 dB minimum (at 1 kHz)
Crosstalk between adjacent tracks	40 dB minimum (at 125 Hz)
Total Harmonic Distortion	BIAS/EQ 1: 3.0% (maximum) BIAS/EQ 2: 2.5% (maximum)

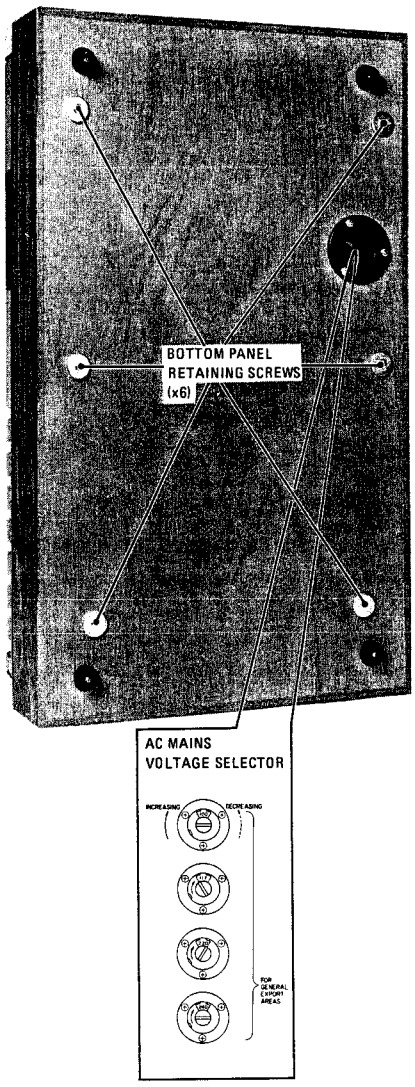
BIAS and EQ Switch Setting Chart

Switch BIAS	Switch EQ	Tape Brand	Tape Designation
1	1	FUJI FILM	FC-C-60 FC-C-90
		MAXELL	CR-C-60 CR-C-90
		TDK	KR-C-60 KR-C-90
		SONY	C-60-CR
		BASF	Chromdioxid C-60 C-90
		AGFA-GEVAERT	Chromdioxid C-60 C-90
2	2	SONY	C-60-HF, C-90-HF C-60, C-90
		TDK	ED-C-90 SD-C-60, SD-C-90 D-C-60, D-C-90
		FUJI FILM	FX-C-60, FX-C-90 FL-C-60
		MAXELL	UDXL-C-60 UD-C-60, UD-C-90 LN-C-60, LN-C-90
		BASF	C-60LH, C-90LH C-60, C-90
		SCOTCH	LD-C-90

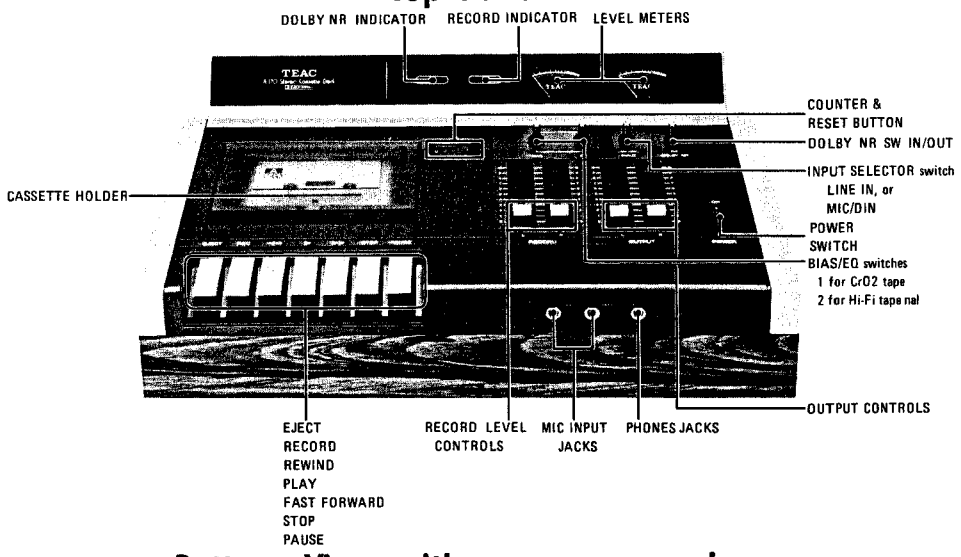
Those tapes listed or, if not available, equivalent tapes are recommended.

Location of Parts & Controls

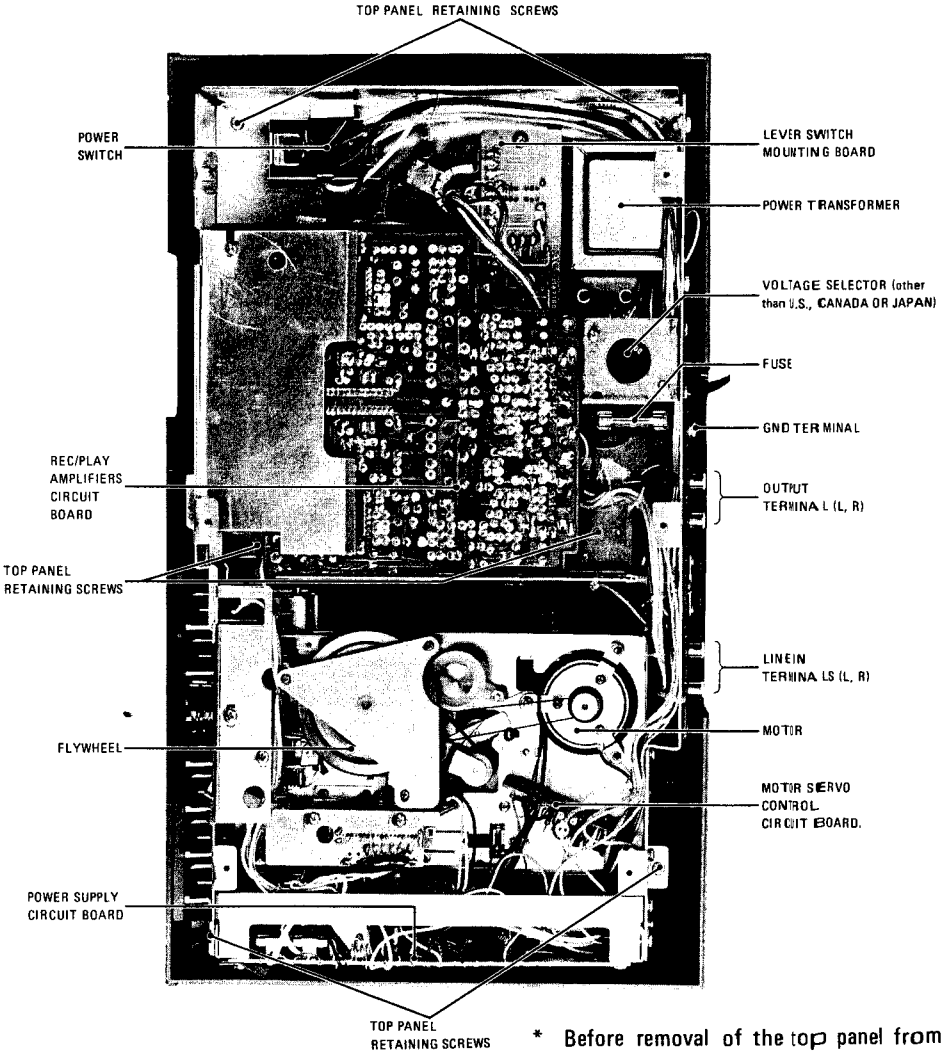
Bottom



Top Panel



Bottom View with cover removed



* Before removal of the top panel from the deck, be sure to take off both knobs of Record and Output controls.

Checks & Adjustments -Mechanical-

Pinch Roller Pressure Measurement

1. Apply the AC power and depress the PLAY button without loading a cassette tape to let the head and capstan assembly protrude for easy servicing.
2. Attach a suitable spring scale as illustrated in Fig. 6-1 to the pinch roller shaft and gently move the scale away (in the direction of the arrow) until the capstan and pinch roller are separated.
3. Move the scale slowly toward the opposite direction of the arrow and check and read the scale at the instant the pinch roller is about to rotate.

Requirement: standard shall be 400 g ± 20 g. (14 oz)

4. If measured value is not within these limits it is necessary to replace the pinch roller spring or pinch roller assembly.

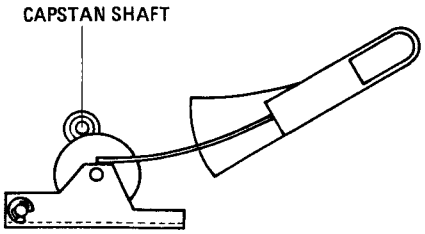


Fig. 6-1 PINCH ROLLER PRESSURE MEASUREMENT

Take-up Reel Torque Measurement

1. Remove the top panel and then apply AC power to the deck under test.
2. Attach the spring scale and special reel adaptor to the reel table as shown in Fig. 6-2.
3. Depress play button to setup playback mode with no cassette tape loaded.
4. Allow the spring scale to be slowly and smoothly drawn toward the hub. Read the scale (before end-stop function activates).
5. Calculate the torque reading using the formula torque = force x radius.
   Torque value should be 45 to 70 g.cm
6. If calculated value does not meet this specification, clean the reel table and tension pulley shaft with the cleaning kit (TEAC TZ-261B) or replace tension pulley ass'y.

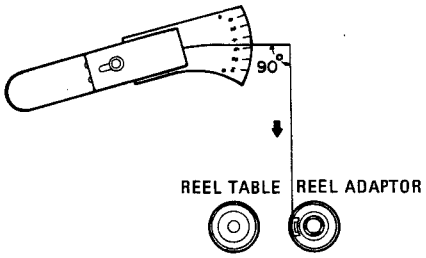


Fig. 6-2 TAKE UP and F.F. REEL TORQUE MEASUREMENT

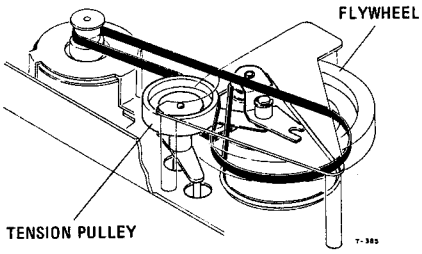


Fig. 6-4 TENSION PULLEY SECTION

F.F. & Rewind Torque

1. Attach the spring scale and reel adaptor to the left or right reel table as shown. Refer to Fig. 6-2 for F.F., Fig. 6-5 for REW.
2. Select F.F. or REW. Allow the spring scale to be slowly drawn toward the reel table. Read the scale when the reading becomes steady.
3. Calculate the torque value using the formula torque = force x radius

Requirement: value should be 80 g.cm or more for F.F., 100 g.cm or more for REW.

4. If calculated value does not meet this specification, clean the reel table and idler with the cleaning kit (TZ-261B) See Fig. 6.6

Note concerning torque procedures.

Torque measurements are calculated using the formula:

Torque (in g-cm) = Force (in grams) x radius (in cm)

Force is the measurement in grams read directly from the spring scale.

The reel adaptor in this procedure is a stack of 4 to 6 reels from old cassettes which have a radius of 1.1 cm.

The torque measurements may also be taken with a calibrated cassette torgue gauge, in which case the torque measurement may be read directly on the torque gauge.

The torque measurements can be easily done by use of the Cassette Torque Meter indicated below.

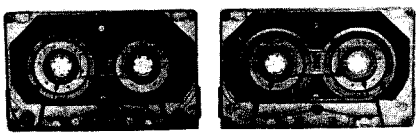
For take-up torque measurement, 0 to 70 grams gauge, at least, is required.

For F.F. and REW torque measurements: 0 – 160g.cm

By this use, it is possible to directly obtain the torque value without calculation, and to do the measurement simply with no removal of any parts.

If necessary, repair with the cabinet and the front panel removed.

Load the meter on the deck and read the pointer indication on the dial scale.



EXAMPLE OF THE QUICK-CHECK "CASSETTE TORQUE METER"

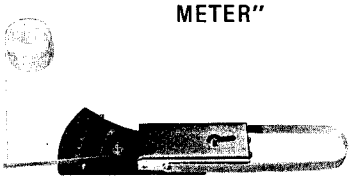


Fig. 3 REEL ADAPTOR & SPRING SCALE TORQUE GAUGE

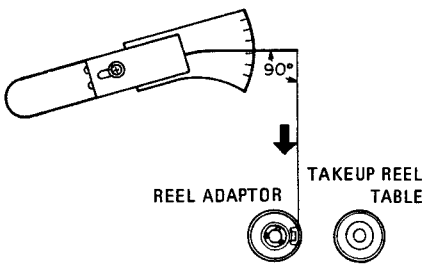


Fig. 6-5 REWIND TORQUE MEASUREMENT

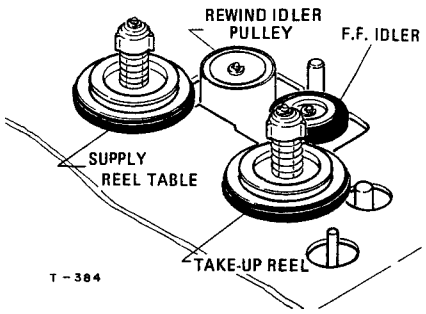


Fig. 6-6 REEL TABLE & IDLER

Tape Speed Deviation & Wow/Flutter Measurement

1. Connect a wow/flutter meter and digital frequency counter to the OUTPUT terminals as illustrated in Fig. 7-1.
2. Load and play a TEAC Test Tape MTT-111 (a 3,000 Hz pre-recorded signal).

Requirement: indication on the digital frequency counter should read 3000 Hz ±45 Hz.

3. **To adjust:** VR-1 the semi-fixed resistor control for the motor speed adjustment. see Fig. 7-2.
4. Read and determine the indication on the wow/flutter meter.

Requirement: 0.12% WRMS or less.

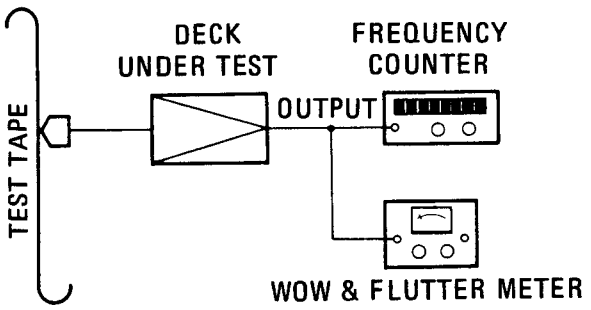


Fig. 7-1 TAPE SPEED DEVIATION & WOW/FLUTTER MEASUREMENT

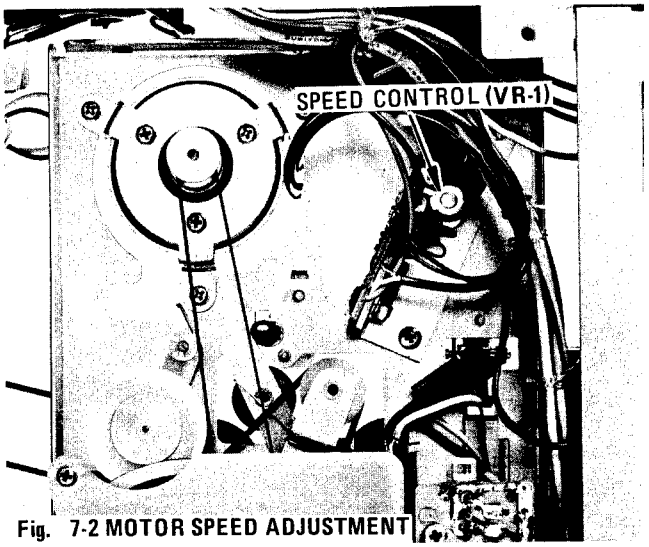


Fig. 7-2 MOTOR SPEED ADJUSTMENT

Partial Dis-assembly & Re-assembly Guide

Disassembly Precautions

- Use the right tools. Demagnetize the tools before use.

If any screws that were coated with locking paint are moved or adjusted, relock them using locking paint after they are set or adjusted to prevent them moving due to vibration or handling of the deck.

- Do not attempt partial adjustment of the factory adjusted ass'y.
- When mounting or removing a spring, pay heed to the position (direction) of the anchor or hook. The wrong position may result in a change in the tension.

Pinch Roller Ass'y

1. Remove top panel, see Fig. 5-3 on page 5 for screws to be removed.
2. Set the deck under test to STOP mode.
3. Remove the E-ring (A) from pivot stud pin.
4. Gently lift up pinch roller ass'y from pivot.
5. Take off spring (B).

Note:

- When removing E-ring pay special attention not to lose it.
- Be careful not to bend, scratch or otherwise damage capstan shaft.
- During reassembly, place top end of spring (B) as illustrated behind pivot stud pin, and use special care that * marked portion is firmly anchored.

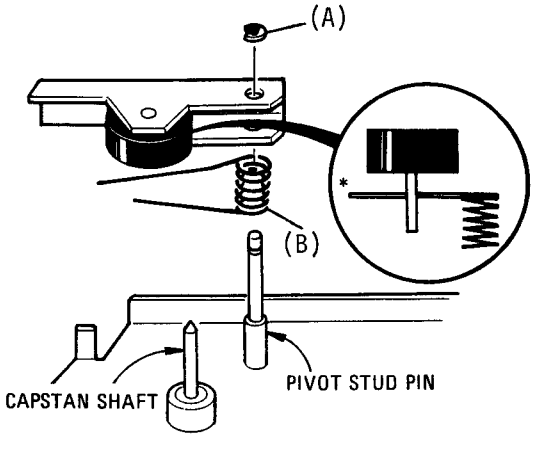


Fig. 8-1 REMOVAL OF PINCH ROLLER ASS'Y

Head Ass'y

1. Remove top panel.
2. Unsolder lead wires from the head.
3. Lift up REC/PLAY head or erase head as in Fig. 8-2.

Note:

Refer to color code identifier if necessary. When remounting REC/PLAY head, be sure to confirm the head physical alignment to tape by using cassette tape run test. Then check head alignment using procedure on page 11.

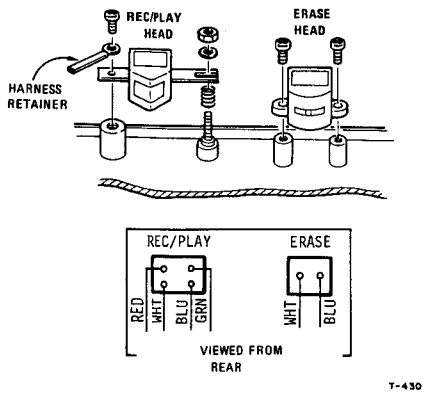


Fig. 8-2 HEAD ASSY

Motor Ass'y

1. Unplug the AC power to the deck.
2. Take out drive belt (D) from motor pulley.
3. Remove grounding lug (C) from motor clamp.
4. Unsolder the red and the black wires from the motor servo circuit board.
5. Loosen and take off 3 retaining nuts (B) which fastened the clamp.
6. Unscrew 2 retaining screws from motor servo circuit board.
7. Lift up the motor body and the servo circuit board together out of the chassis.

Note:

- Never forget to clean the pulley after taking off the belt (TZ-261 TEAC Cleaner kitB).
- When re-attaching drive belt to the pulley pay attention to avoid twisting belt.
- Belt should always be attached right in predetermined place.

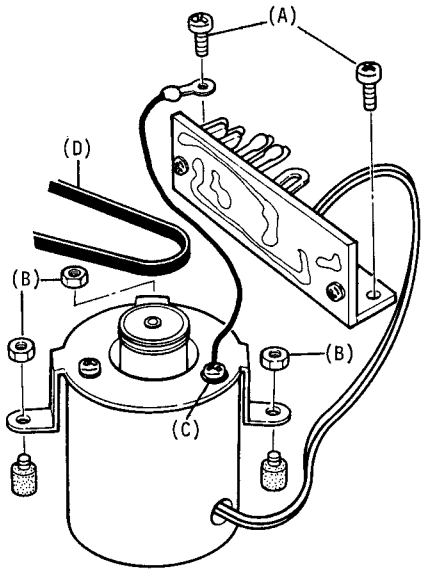


Fig. 8-3 MOTOR ASSY T-433

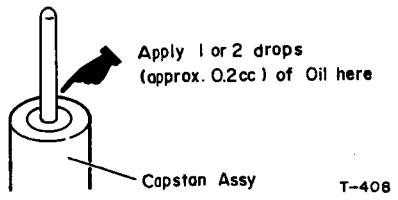
Capstan Ass'y and Drive Belt

1. Prepare by removing bottom panel and set the deck in the STOP mode.
2. Loosen 3 screws out of (A) flywheel bearing plate ass'y.
3. Take off two drive belts (C) and (D).
4. Gently lift and take out capstan ass'y (B) from capstan shaft bearing stud (G).

3 "don't"s: Be careful of the following:

- do not bend capstan shaft as this will increase wow/flutter or speed deviation.
- during re-assembly do not re-attach twisted drive belt.
- do not forget to insert washer (E) when remounting parts.

Lubrication: Generally, it is necessary only once in every 1000 hours of use. However, when required apply one or two drops (about 0.2 cc) of good quality oil e.g., TEAC TZ-255.



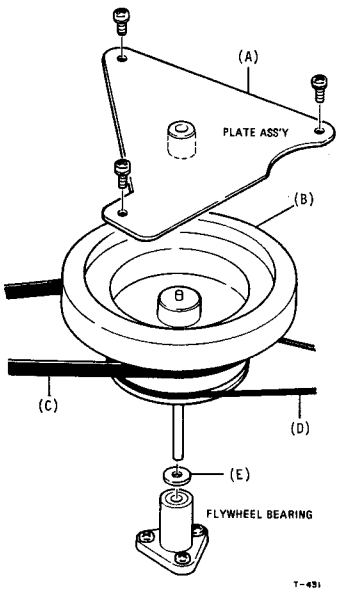


Fig. 8-4 CAPSTAN ASSY & DRIVE BELTS

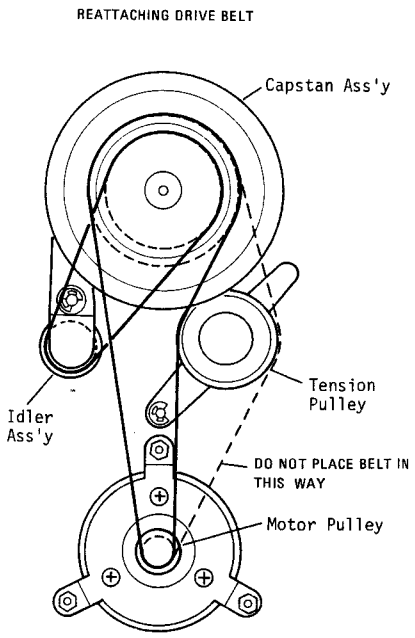
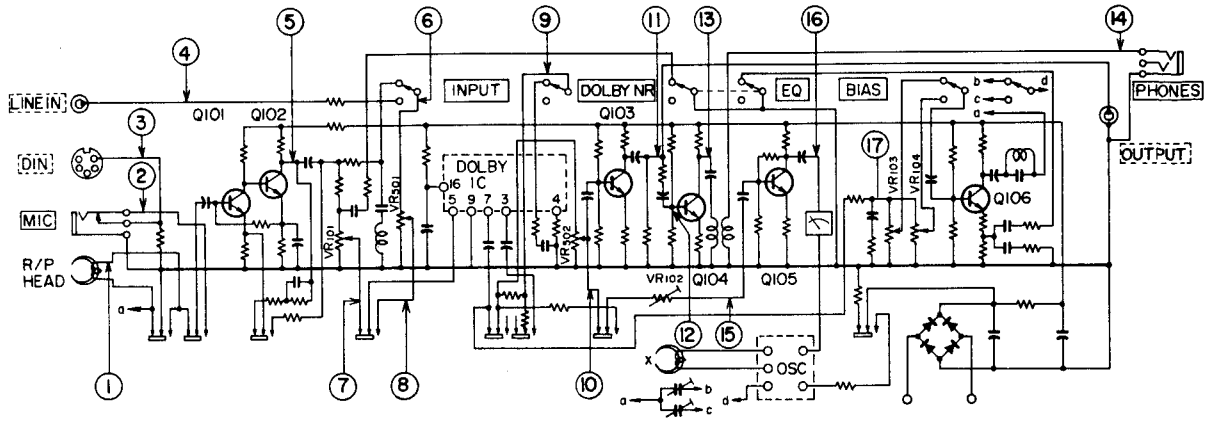
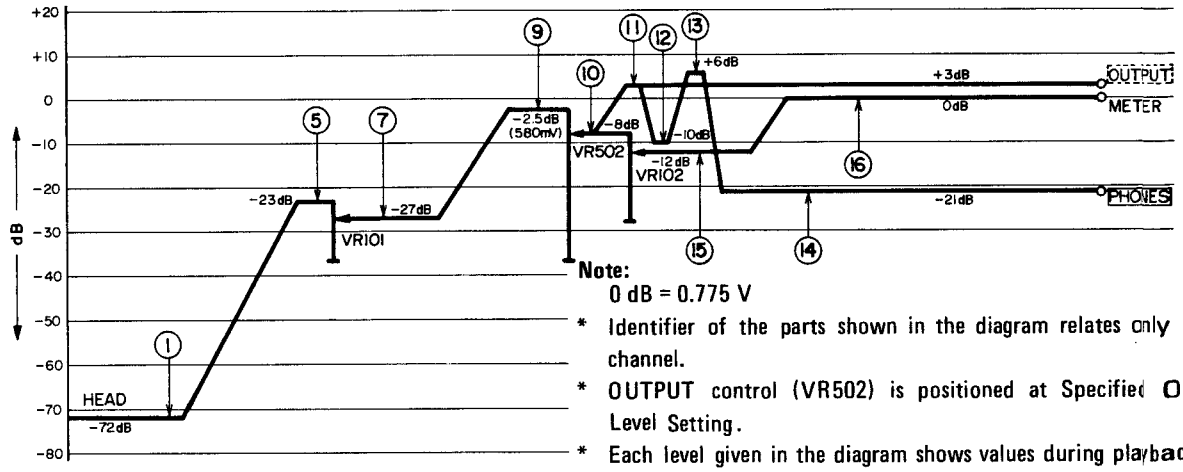


Fig. 8-5 RE-ATTACHING DRIVE BELTS

Level Diagram



Playback System



Note:

0 dB = 0.775 V

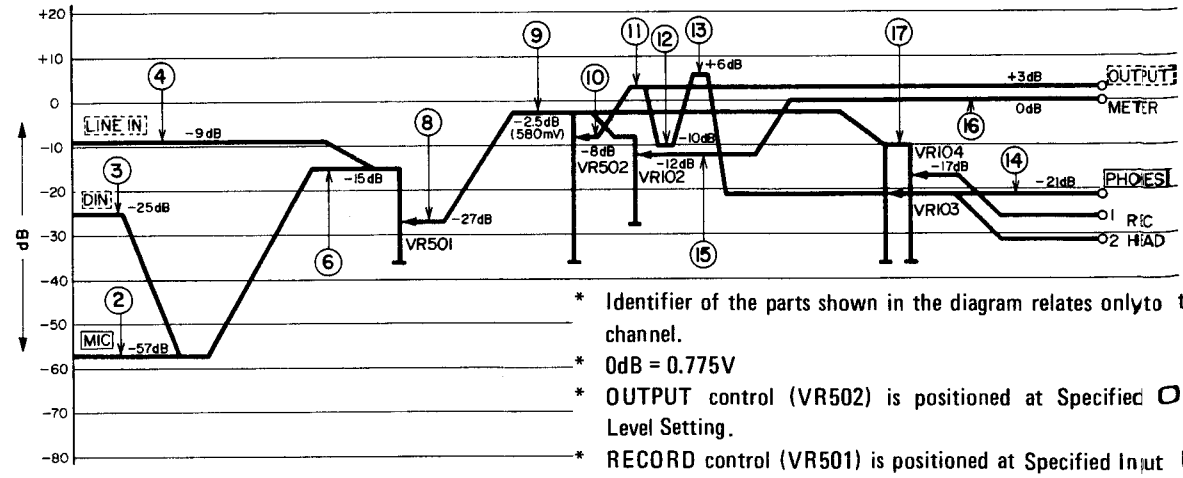
* Identifier of the parts shown in the diagram relates only to left channel.

* OUTPUT control (VR502) is positioned at Specified Output Level Setting.

* Each level given in the diagram shows values during playback with MTT-150 Test Tape (DOLBY Level Calibration Tone)

* VR101: playback (OUTPUT) level control.

Recording & Playback System



* Identifier of the parts shown in the diagram relates only to the left channel.

* 0dB = 0.775V

* OUTPUT control (VR502) is positioned at Specified Output Level Setting.

* RECORD control (VR501) is positioned at Specified Input Level Setting.

* Each level given in the diagram shows values when a 400 Hz Reference Input Level is applied.

* VR102: Meter calibration control (Semi-fixed).

* VR103: Semi-fixed control of recording level (2).

* VR104: Semi-fixed control of recording level (1).

Checks & Adjustments -Electrical-

Monitoring System

Minimum Required Input Level

1. Turn the RECORD level controls to maximum and apply a 400 Hz signal into each input terminal (MIC, DIN, LINE IN) successively.
2. Confirm the input signal level which produces a 580mV output at the Dolby Test Point (see Fig. 10-2).
   Standards specified must be values listed below.

Input Terminals	Minimum Input Level Required
LINE IN	−19dB ±3dB
MIC	−67dB ±3dB
DIN	−35dB ±3dB

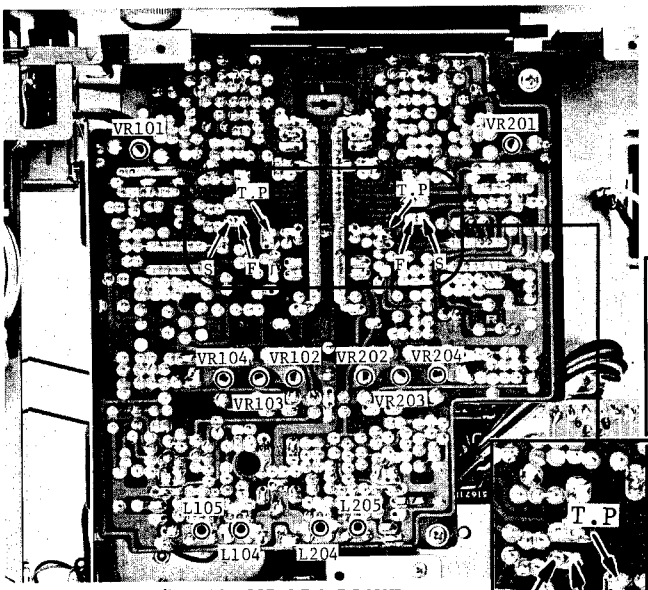


Fig. 10-1 REC/PLAY AMP ADJ. POINT

* Input impedance of VTVM that is to be aload to a Dolby test point must always be more than 1 megohms.
* 0dB = 0.775 V

Note:
Short these two terminals if the L-chan is reading higher.

Short these two terminals if the R-chan is reading higher.

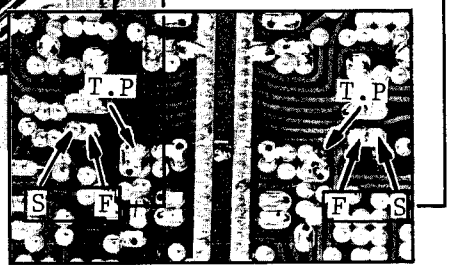


Fig. 10-2 DOLBY T.P.

Checking the Headphone Output Standard

*This check should be done after confirming the specified output level on next page.

1. With the Specified Input Level setup (see preceding paragraph above), connect a phone plug with 8 ohms load resistors as illustrated, to the PHONES jack.

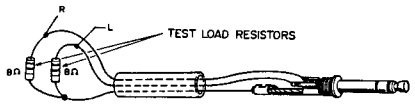


Fig. 10-4 HEADPHONE PLUG WITH LOAD RESISTORS

2. Measure level across resistors to determine output voltages on each channel.

Requirement: Standard −21 dB ±2 dB (69 mV)

Calibration of Input Level Meter Indication

With the Specified Input Level, set as previously described, align VR102/202 so that a +3VU reading (▯▯) is obtained on the level meter.

Gain Alignment on Dolby IC Amplifier

On checking the preceding Minimum Required Input Level, if a 1.5dB or more difference between left and right channel is found, solder together (short) the two terminals indicated in Fig. 10-2 for the higher reading channel.

After aligning levels of both channels, reconfirm that the specified minimum input levels are exactly within the limits specified above.

Specified Input (RECORD) Level Setting

1. Load an MTT-505 Test tape.
2. Apply a 400 Hz, −9dB signal to the LINE IN jacks and select the REC/PAUSE mode. Fig. 10-3.
3. Set the RECORD control (L. channel) so that a voltage of 580 mV appears at the Dolby T.P. Fig. 10-2.
4. Repeat procedure for the right channel.

Note: After this setup, do not move RECORD controls until all adjustments are made.

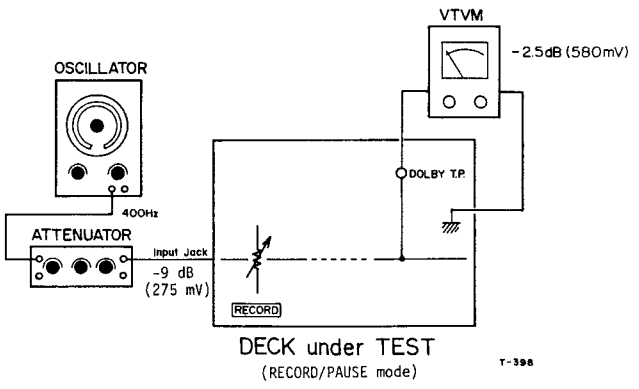


Fig. 10-3 SPECIFIED INPUT LEVEL

Playback System

General: To achieve alignments of playback system stages, BIAS and EQ switches must always be set in position 2 and Dolby NR switch set to OUT.

Record/playback Head Azimuth Alignment

Channel Phase Difference

1. Set up the test connections for the deck under test with the scope and VTVM as illustrated.
2. Playback the MTT-150 test tape and confirm that displayed phase of L & R channels on scope is kept within the 45 degrees standard with the 400 Hz tone.

Optimum Azimuth for Maximized Output

1. Connect VTVM to the Line OUTPUT terminal (first L-channel then R-channel) of the deck under test.
2. Play the 10kHz portion of the MTT-116L test tape.
3. Align the azimuth screw to obtain a maximum reading on VTVM.
   Check both channels and compromise the setting if necessary to get the optimum reading for both channels.

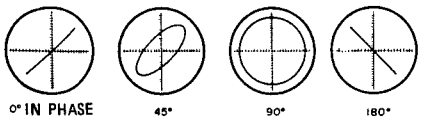


Fig. 11-1 CHANNEL PHASE DIFFERENCE

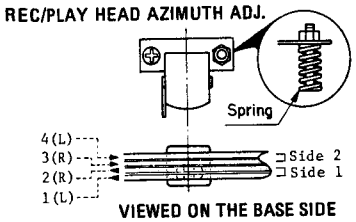


Fig. 11-2 REC/PLAY HEAD AZIMUTH ADJ.

Setup of Specified Standard Output Level

1. Load and playback the MTT-150 test tape. Connect the VTVM to the Dolby Test Point and adjust VR101/201 to obtain the specified voltage of 580mV.
2. Connect the VTVM to the OUTPUT jack of the deck under test.
3. Set the OUTPUT controls to maximum and confirm that +8 dB ±1 dB is obtained at OUTPUT jacks.
4. Set OUTPUT controls again for +3 dB (1.09 V) specified level.

Note: After this setup, do not move OUTPUT controls until all amplifier adjustments are made.

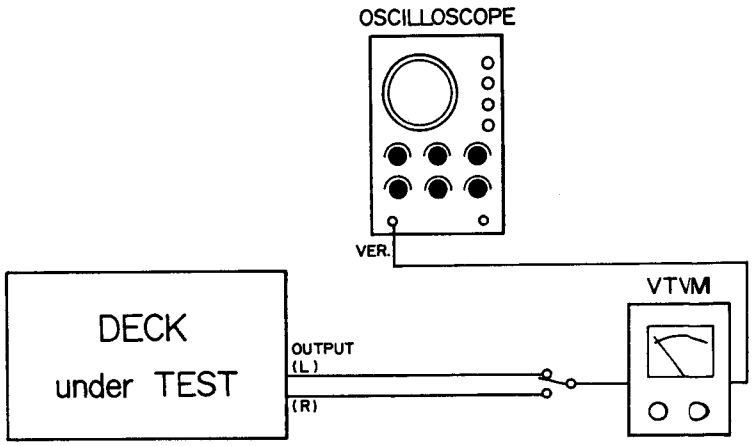


Fig. 11-3 SPECIFIED OUTPUT LEVEL

Checking Level Meter Indication

After setting up the Standard Output Level, confirm that the VU meters read +3 VU ±1.5 VU.

Checking the Frequency Response –Playback–

1. Make connections as shown in Fig. 11-3
2. Play the MTT-116L test tape.
3. With the 333Hz/–10dB signal of the test tape as a reference, confirm the output level of each frequency from 40Hz to 10kHz is within the limits shown on the chart. Fig. 11-4

Signal-to-noise Ratio –Playabck–

1. Make the connections shown in Fig. 11-3 and set the deck in the Play/PAUSE mode.
2. Measure the noise at the OUTPUT jacks.
3. Compare this to the specified output level of +3 dB and obtain the signal to noise ratio.

Note: If the polarity of the plug when connected to the wall outlet affects this reading, the inferior reading in this test must be within the specified values below.

Requirement: better than 47dB.

Difference between channels must be 5dB or less.

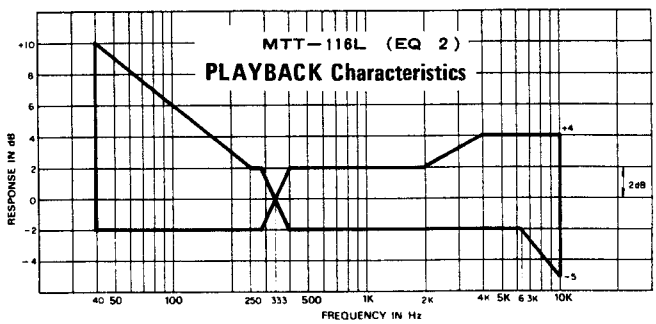


Fig. 11-4 Frequency Response – Playback –

Recording System

Setting up Recording Bias

Bias Trap Adjustment

1. Load an MTT-505 Test Tape.
2. Connect VTVM between the junction of L104/204 and C139/239 and ground of the deck under test.
3. Set the deck in the REC/PAUSE mode with no signal applied.
4. Align L104/204 for minimum output reading on the VTVM.
5. See P.C. board photo below. fig. 12-4

Setting up Specified Recording Level

1. Make the connections as illustrated in Fig. 12-1.
2. Record a 400 Hz, −12 dB (194 mV) signal on the MTT-505 or MTT-501 test tape.

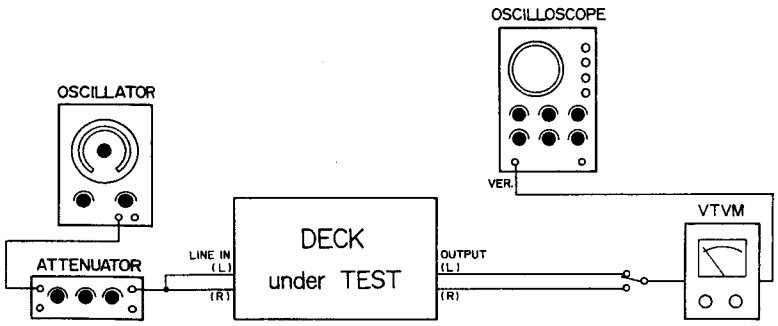


Fig. 12-1 SPECIFIED RECORDING LEVEL

3. Rewind the tape and play it back.
4. Check to see if a 0 dB output is obtained on OUTPUT jacks.
5. Adjust the semi-adjustable resistors VR103/203 for position 1 (BIAS/EQ for MTT-505) and VR104/204 for position 2 (of BIAS/EQ switches for MTT-501) until this specified output is obtained.

Position 1 (CrO_2 tape)

1. Connect the deck under test as illustrated in Fig. 12-1.
2. Place BIAS and EQ switches in position 1.
3. Load a MTT-505 test tape and set the deck in RECOR D/mode.
4. Apply two tone signals of 1 kHz, −42dB (6.2mV) and 10 kHz −42 dB, in turn, into LINE IN jacks and record each signal for several seconds.
5. Rewind and playback the tape to compare output levels of 1 kHz and 10 kHz signals.
6. Check and adjust for a 2 dB lower output for the 10 kHz than that of 1 kHz signal.
7. Repeat procedure to adjust PC301/303, if necessary, to achieve this.

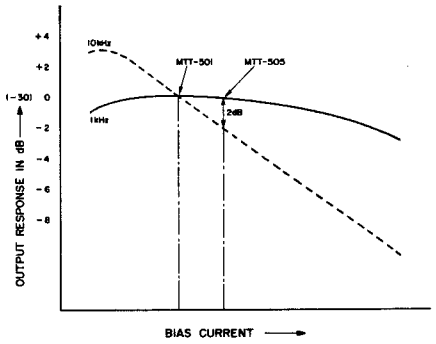


Fig. 12-2 BIAS CURRENT vs OUTPUT RESPONSE CHART

Position 2 (Hi-Fi Tape)

1. Set BIAS/EQ switches in position 2.
2. Apply two frequency signals; 1 kHz, −42 dB and 10 kHz, −42 dB into the LINE IN jacks.
3. Record the signals on the MTT-501 Test Tape this time.
4. Playback and check these signals. There should be no difference in playback level between these two signals.
6. Repeat procedure to adjust PC302/304, if necessary, to achieve this.

Note: PC301/302/303/304 affect record, therefore, if any of these adjustments are made the tape should be recorded and then played back to check effects of adjustment.

Location of the Adjustment Controls

Designation of Controls

VR101/201:
Playback level
VR102/202:
calibration of meter indication
VR103/203:
recording level (1)
VR104/204:
recording level (2)
L104/204:
bias trap tuned tank
L105/205:
record equalizer

PC302/304:
bias (2)
PC301/303:
bias (1)

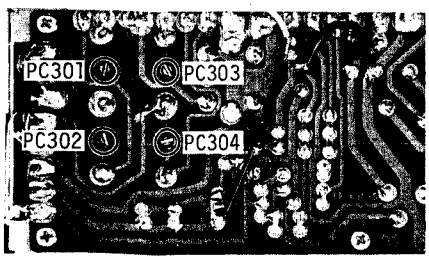


Fig. 12-3 POWER SUPPLY P.C. BOARD (51671760)

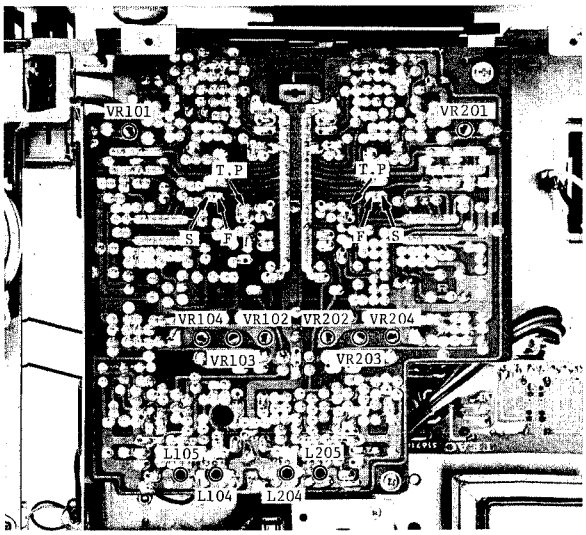


Fig. 12-4 RECORD/PLAYBACK AMPLIFIER P.C. BOARD (51671750)

Recording System

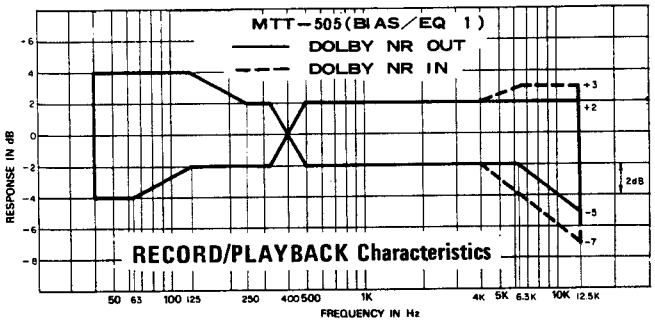
Frequency Response (overall)

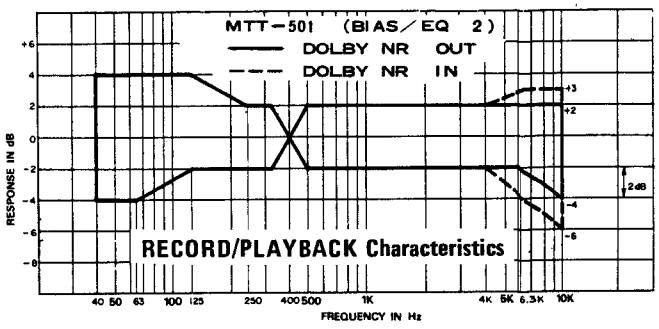
This test should be run on MTT-505 and MTT-501 test tapes or equivalent. See the chart. Set the BIAS/EQ Switches as noted:

MTT-505 BIAS/EQ 1
MTT-501 BIAS/EQ 2 positions.
Dolby NR switch OUT and IN.

1. Apply a 400 Hz signal at −42 dB (6.2 mV) level (for reference level).
2. Begin recording and sweep the signal generator from 40 Hz to 12.5 kHz (for MTT-505) or from 40 Hz to 10 kHz (for MTT-501).
3. Rewind the tape to the beginning of the recording and playback the tape.
4. Output signal shall be within limits shown on applicable chart (Fig. 13-1, 13-2) (in ref. to 400 Hz level).
5. If frequency response is not within limits shown in chart, adjust L105/205 for fine high frequency tuning.

Fig. 13-1 FREQUENCY RESPONSE LIMIT CHART Fig. 13-2





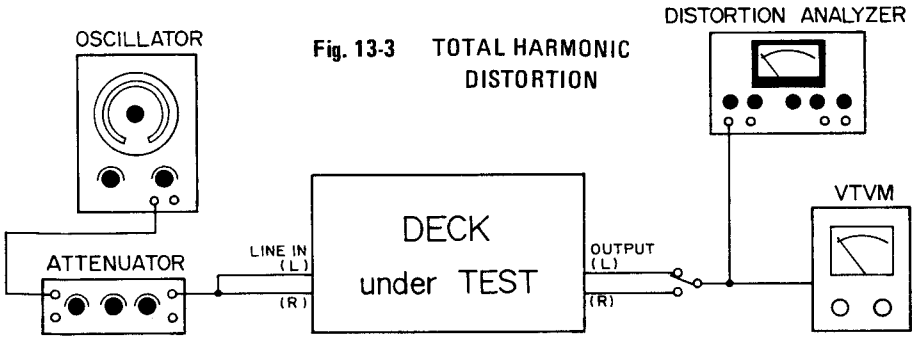
Total Harmonic Distortion Measurement

1. Connect a distortion analyser to the OUTPUT jacks of the deck under test as illustrated.
2. Apply a 400 Hz/−12 dB (194 mV) sine wave signal at LINE IN terminals.
3. Record and playback on each of the test tapes listed below and check that the distortion is within the limits listed below.

Requirement:

BIAS/EQ 1: 3.0% or less with MTT-505 tape
BIAS/EQ 2: 2.5% or less with MTT-501 tape

Fig. 13-3 TOTAL HARMONIC DISTORTION



Channel Separation Test

1. Apply a 1 kHz signal at −9 dB (274 mV) to the LINE IN L jack and record this signal.
2. Rewind the tape and play it back.
3. Measure the OUTPUT of the L channel through a 1 kHz bandpass filter for a reference level.
4. Measure the OUTPUT of the R channel through the same band pass filter (leakage from the left channel).
5. Compare the levels between steps 3. & 4. for separation factor.

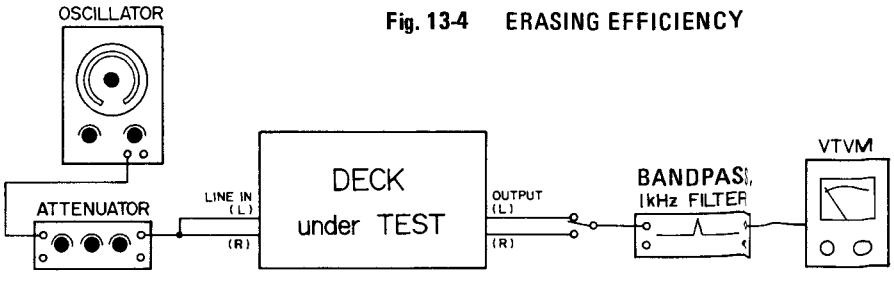
Requirement: greater than 30 dB separation factor.

Erasure Efficiency

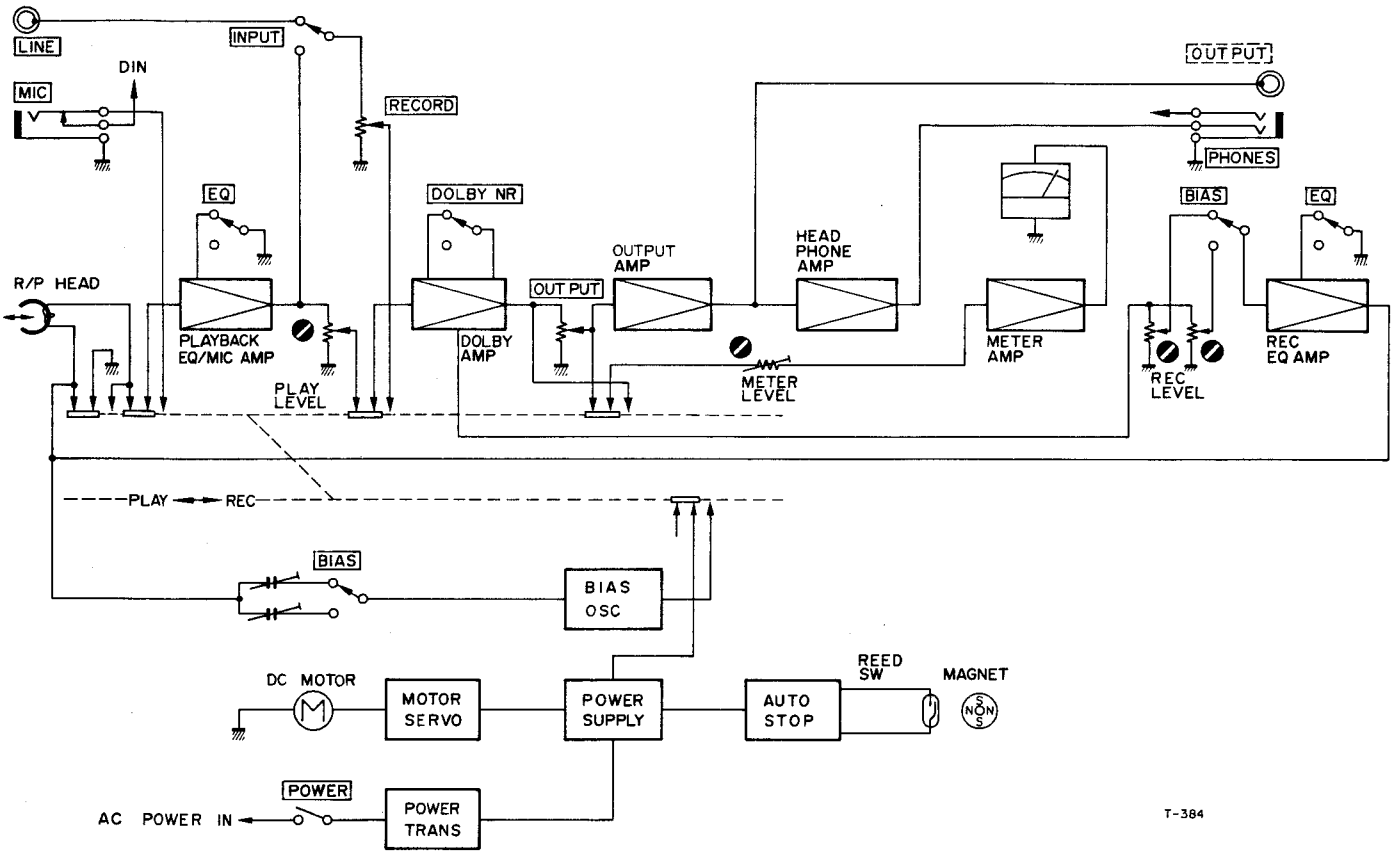
1. Set BIAS & EQ switches to position 1.
2. Apply a 1 kHz, +1 dB (or 869 mV) signal to the LINE IN terminal and record it on MTT-505 test tape for about 30 seconds.
3. Rewind the tape halfway back through the previously recorded signal and record again over the last half of the original portion without applying any input signal (only to erase the portion).
   Rewind the tape to the beginning of the original recording.
4. Connect the OUTPUT through a 1 kHz bandpass filter to a VTVM.
5. Playback the tape. Use the original signal (unerased portion) as a reference level. When the tape reaches the erased portion (recorded with no input signal) the level will suddenly decrease. Measure this level and compare it with the reference level.

Requirement: difference should be greater than 65 dB.

Fig. 13-4 ERASING EFFICIENCY



System Functional Diagram



Checks & Adjustments -contd- Recording System

Dolby NR Effect Measurement

1. Set the RECORD level controls to the Specified Input level setting.
2. Apply a 1 kHz at –29 dB (27 mV) signal to the LINE IN terminal of the deck.
3. Set the Dolby NR switch to OUT position and record this signal.
4. Play the tape back and check the level difference when turning the Dolby NR switch from IN to OUT position in turn. Read indication on VTVM at same time.

Requirement: allowable difference level standard must be within 3.5 dB – 7.5 dB. Repeat the above procedure using a 10 kHz signal.

Requirement: difference must be 8 – 12 dB.

Signal to Noise Ratio (overall)

1. Record on each of the designated test tapes with no input signal.
2. Play the recorded portion back and obtain a ratio compared to the Standard specified Output Level (+3 dB or 1.09 V).

Requirement:

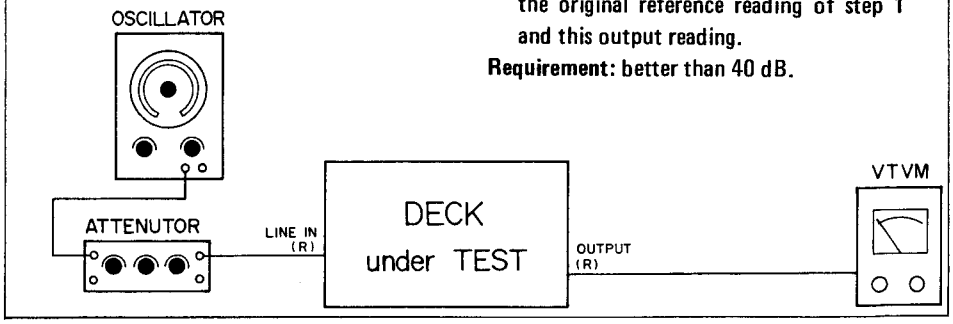
BIAS/EQ 1: better than 45 dB with MTT-505

BIAS/EQ 2: better than 44 dB with MTT-501

Crosstalk Measurement

1. Load a bulk erased MTT-505 test tape on the deck.
2. Apply and record a 125 Hz/–9 dB (274 mV) level signal to the LINE IN R channel. Then rewind the tape, play it back and measure the R channel for a reference level.
3. Turn over the cassette tape and playback the R channel to obtain a ratio between the original reference reading of step 1 and this output reading.

Requirement: better than 40 dB.



Trouble-shooting Guide

Malfunction	Symptom	Diagnosis

Mechanical

1. Fuse blows when power turned on — defective power transformer
2. Inoperative auto-stop from FF or REW
   - a) no B+ voltage between pin A and GND of SCR — defective R303
   - b) no solenoid operation even when A to K of SCR is on — defective S501 or solenoid
   - c) no solenoid operation even with A-G of SCR shorted — defective SCR
3. Tape winds on capstan
   - 1) pinch roller defective or defective take-up reel table assy
   - 2) slippage of idler
   - 3) mis-aligned tape guide
4. Excessive wow & flutter
   - 1) defective pinch roller itself or incorrect pinching pressure
   - 2) defective or oil on capstan drive belt
5. No rotation of capstan shaft
   - 1) capstan drive belt slipped off
   - 2) defective motor
6. Counter does not advance
   - 1) insufficiently depressed reset button
   - 2) counter drive belt slipped off

Electrical

1. No playback sound
   - a) noise heard when lead wires connected to head are touched
     - 1) defective soldering
     - 2) defective head
   - b) recording monitor operative
     - 1) defective REC/PLAY SW
     - 2) defective Q101, Q102 or associated parts
   - c) inoperative monitor — defective Q101, Q102, Q103, Dolby NR amp., or associated parts
2. No meter deflection during playback
   - 1) defective meter
   - 2) defective Q105, VR102 or associated parts
3. Poor high-frequency region response during playback
   - a) extremely poor response — defective Q102 or EQ stage
   - b) several dB poorer response than normal — dirty head or defective head
   - c) level fluctuations with inferior high-end response with dropouts
     - 1) poor head-to-tape contact
     - 2) defective or dirty tape path
4. Inferior S/N ratio in playback
   - a) excessive hum
     - eliminated if C101 removed — defective head
     - eliminated if mounting angle — defective power transformer changed on REC/PLAY amplifier circuit board
   - b) excessive noise — defective head, Q101, Q102 or associated components
   - c) erratic wave shape — defective Q102, C102, C108, Q101 or associated parts
5. No recording
   - a) resumes if BIAS sw selection changed — defective BIAS sw, VR103, VR104 or associated parts
   - b) no erasing — defective bias oscillator unit assy
   - c) erasure O.K. — normal monitoring can be done — dirty head, defective Q106, REC/PLAY slide sw or associated parts

Note: Described components identifiers are shown only for the L-channel.
Refer to the schematics and parts list for related R-channel identifiers if necessary.

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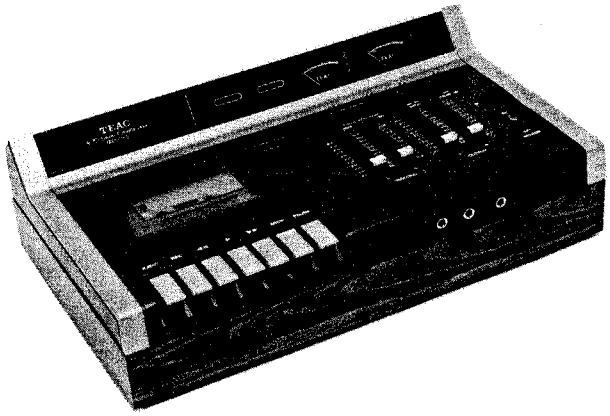

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STEREO CASSETTE DECK

PARTS LIST

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PARTS ORDERING INFORMATION

Spare parts are available thorugh your nearest TEAC Authorized Service Center of directly from the TEAC office, the address of which is written on the back cover. When ordering parts, always include the following information:

1. MODEL
2. REF. NO.
3. PARTS NO.
4. DESCRIPTION
5. UNIT SERIAL NO.
6. MANUAL CODE NO.

NOTICE REGARDING PARTS ORDERS

1. Do not order by only REF. NO.
2. In some instances, individual minor parts are not available. In such a case, the entire assembly including the part requested will be sent to you.

PARTS IDENTIFICATION CODING

Parts are identical between the different models with the exceptions as coded by the designations explained below.

DM	Domestic (Japan) market decks only.
TCA	TEAC Corporation of America, U.S.A. version only.
EUROPE	European market decks (except United Kingdom).
EX	All decks not specified above (incl. U.K.)

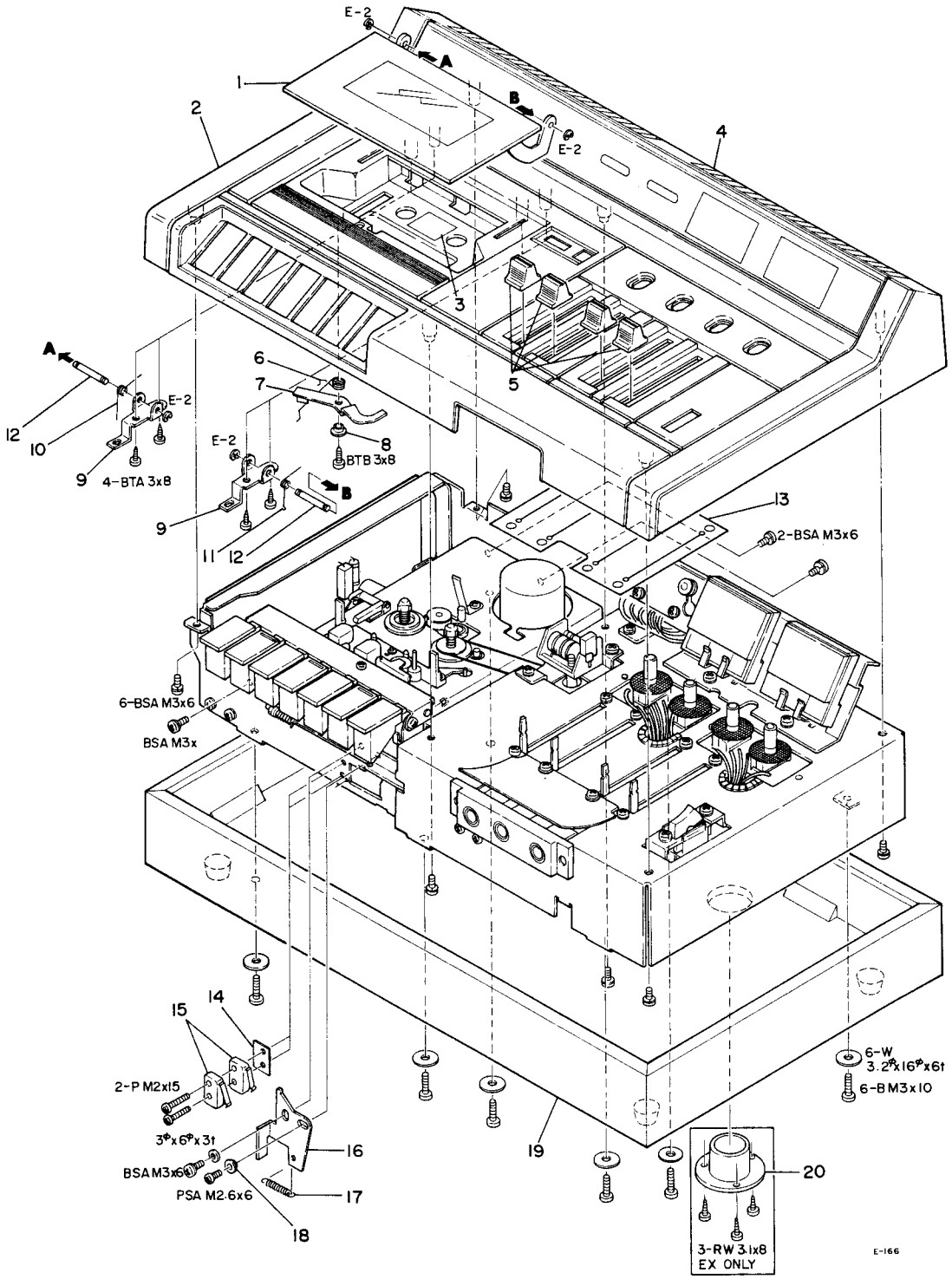
Effective: July, 1975
CK-016

TEAC CORPORATION

31031600

EXPLODED VIEWS AND PARTS LIST

1. BASIC DISASSEMBLY



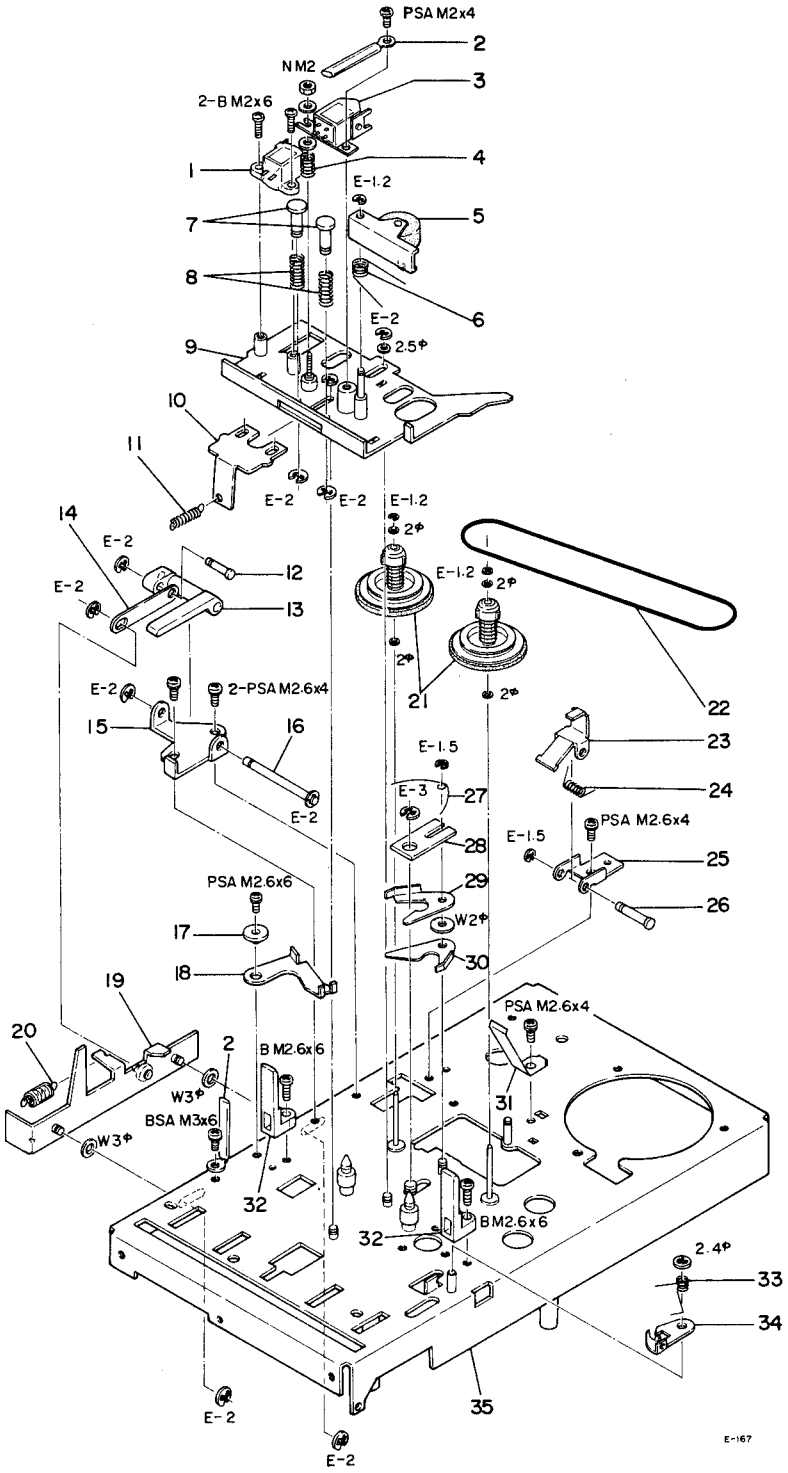
Parts marked with * require longer delivery time than regular parts.

REF. NO.		PARTS NO.	DESCRIPTION	REMARKS
1- 1		55330100	Cover, Cassette	
1- 2	*	55310022	Case, Top	
1- 3	*	55542530	Plate, Reflective	
1- 4	*	55320080	Name Plate	
1- 5		55340900	Knob, Pot.	
1- 6		55240151	Spring, Cassette Cover Release	
1- 7	*	55542520	Lever, Hook; Cassette Cover Release	
1- 8	*	55441200	Washer, Shoulder	
1- 9	*	55542511	Bracket, Retaining; Cassette Cover Shaft	
1-10		55240180	Spring, Cassette Cover	
1-11		55202670	Spring, Cassette Cover; Right	
1-12	*	50828580	Shaft, Cassette Cover	
1-13	*	55542500	Mask, Pot.	
1-14	*	55500251	Spacer, Insul. Paper	
1-15		50446540	SW, Micro (S510, S511)	
1-16	*	55542820	Lever, Micro SW	
1-17		55202580	Spring, Micro SW	
1-18	*	55400480	Washer, Shoulder; Hook Lever Arm	
1-19	*	55020350	Case Assy, Wooden; B	EX, EUROPE
	*	55020330	Case Assy, Wooden; A	DM, TCA
1-20	*	55340890	Cover, Voltage Selector	EX, EUROPE

INCLUDED ACCESSORIES

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	51280010	Cords, Input-output Connection, 2 used	
	57100300	Cleaning Stick (TZ-275)	
	50291350	Silicone Cloth	
	51013330	A-170 Owner's Manual	DM
	51013340	A-170 Owner's Manual	EX, EUROPE
	51013350	A-170 Owner's Manual	TCA
	51013450	Information Supplement, Cassette	

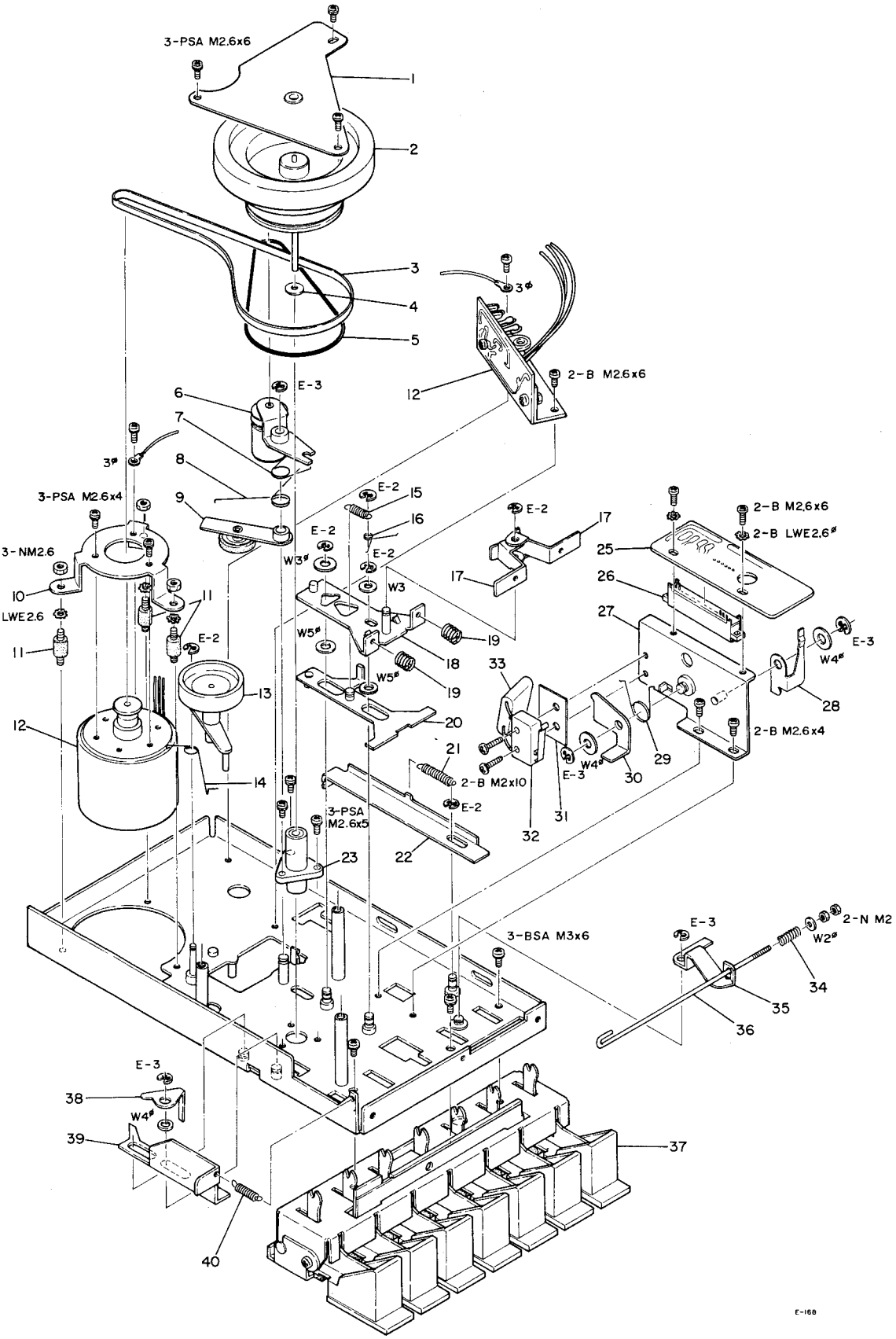
2. TRANSPORT SECTION A -TOP VIEW-



Parts marked with * require longer delivery time than regular parts.

REF. NO.		PARTS NO.	DESCRIPTION	REMARKS
2- 1		50660470	Head, Erase	
2- 2	*	50279870	Retainer, Head Lead; D	
2- 3		50660210	Head, R/P	
2- 4		50845540	Spring, R/P Head	
2- 5		55040700	Pinch Roller Assy	
2- 6		55202590	Spring, Pinch Roller	
2- 7	*	50845631	Shaft, Head Actuator	
2- 8		50845620	Spring, Head Actuator	
2- 9	*	55040690	Plate Assy, Head Base	
2-10	*	50845610	Plate, Head Base Actuator	
2-11		50846241	Spring, Head Base	
2-12	*	55441160	Shaft, Cassette Lifting; B	
2-13	*	55340790	Arm, Cassette Lifting; A	
2-14	*	55542330	Lever, Cassette Lifting; C	
2-15	*	55542320	Bracket, Cassette Lifting; B	
2-16	*	55441150	Shaft, Cassette Lifting; A	
2-17	*	55400480	Washer, Shoulder; Hook Lever Arm	
2-18	*	55542260	Lever, Stopper	
2-19	*	55040730	Lever Assy, Cassette Lifting; E	
2-20		55240110	Spring, Lever	
2-21		55040720	Reel Table Assy	
2-22		55340850	Belt, Counter	
2-23	*	55542220	Bracket, Safety; B	
2-24		55240120	Spring, Safety Bracket	
2-25	*	55542210	Bracket, Safety; A	
2-26	*	55441080	Shaft, Safety Bracket	
2-27		50845452	Spring, Brake Lever	
2-28	*	55542230	Bracket, Brake Retainer	
2-29	*	50845430	Lever, Brake; Left	
2-30	*	50845440	Lever, Brake; Right	
2-31		55240130	Plate, Spring	
2-32	*	55340750	Cassette Guide	
2-33		50845502	Tension Spring, Pause Lock	
2-34		50846431	Plate, Pause Lock	
2-35	*	55020302	Chassis Assy	

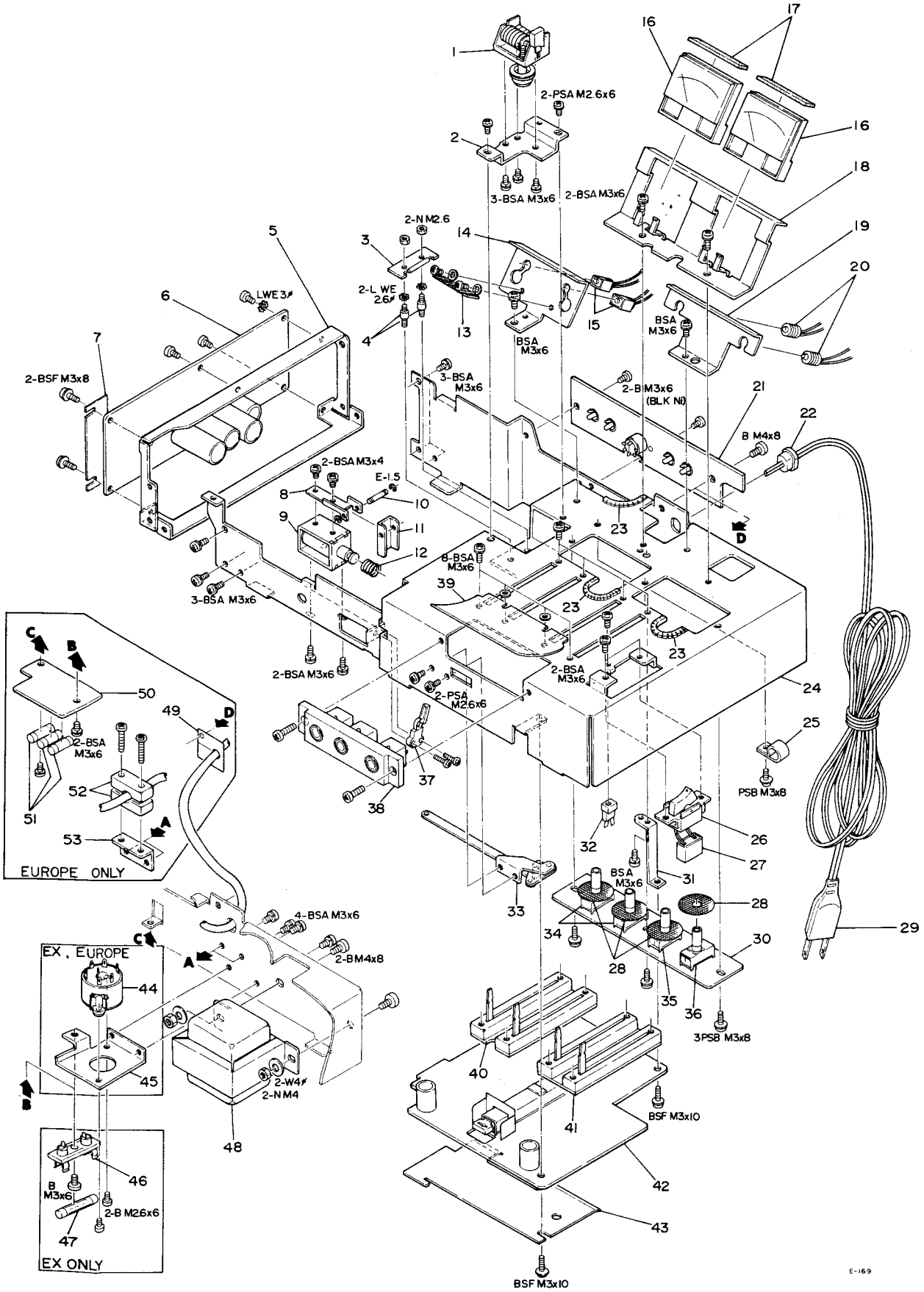
3. TRANSPORT SECTION B -BOTTOM VIEW-



Parts marked with * require longer delivery time than regular parts.

REF. NO.		PARTS NO.	DESCRIPTION	REMARKS
3- 1	*	55040710	Plate Assy, Flywheel Bearing	
3- 2		55040800	Flywheel Assy	
3- 3		55340930	Belt, Capstan	
3- 4	*	55500310	Washer, Thrust	
3- 5		55340951	Belt, Fast Wind	
3- 6		55040942	Idler Assy, A	
3- 7		55202620	Spring, Idler; A	
3- 8		55202560	Spring, Idler; B	
3- 9		55040950	Idler Assy, B	
3-10	*	55542280	Plate, Mount.; DC Motor	
3-11		71111900	Cushion, Rubber	
3-12		71051060	DC Motor Assy	
3-13		55040780	Pulley Assy, Tension	
3-14		50846191	Spring, Tension Pulley	
3-15		55202610	Spring, Actuator Lever Return	
3-16		55202601	Spring, Fast Wind Return	
3-17	*	55542170	Lever, Fast Wind Actuator	
3-18	*	55040660	Plate Assy, Fast Wind	
3-19		55202580	Spring, Fast Wind	
3-20	*	55040671	Plate Assy, SW Actuator	
3-21		55240110	Spring, Lever	
3-22	*	55542180	Plate, Record Mode Lock Out	
3-23		55040910	Capstan Housing Assy	
3-24	*	50182152	Cushion, Tension Arm	
3-25		51681790	PC Board Assy, Muting	
3-26	*	51310300	SW, Slide (S504)	
3-27	*	55040770	Plate Assy, SW	
3-28	*	55542750	Lever, Slide SW	
3-29		55240160	Spring, Micro SW Lever	
3-30	*	55542740	Lever, Micro SW	
3-31	*	55500251	Spacer, Insul. Paper	
3-32		50446540	SW, Micro (S501)	
3-33		50529050	Spark Killer 0.1μF + 120Ω 400V (C502)	
3-34		50845420	Spring, Wire Linkage	
3-35	*	55542190	Lever, Record	
3-36	*	50845412	Wire Linkage	
3-37		55020312	Pushbutton Assy	
3-38	*	55542250	Arm, Pause	
3-39	*	55542240	Lever, Pause	
3-40		55240140	Spring, Pause Lever	

4. MAIN CHASSIS

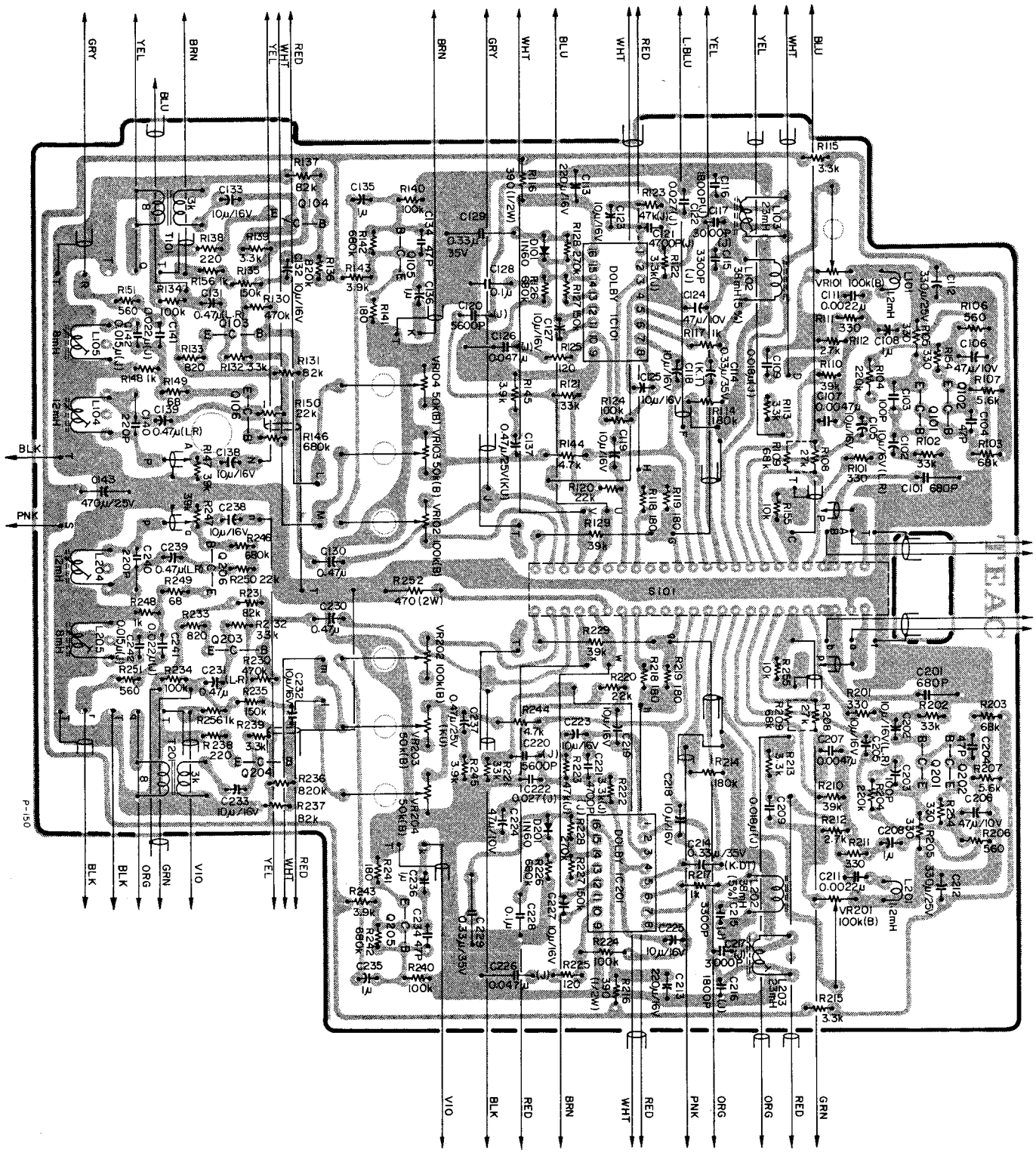


Parts marked with * require longer delivery time than regular parts.

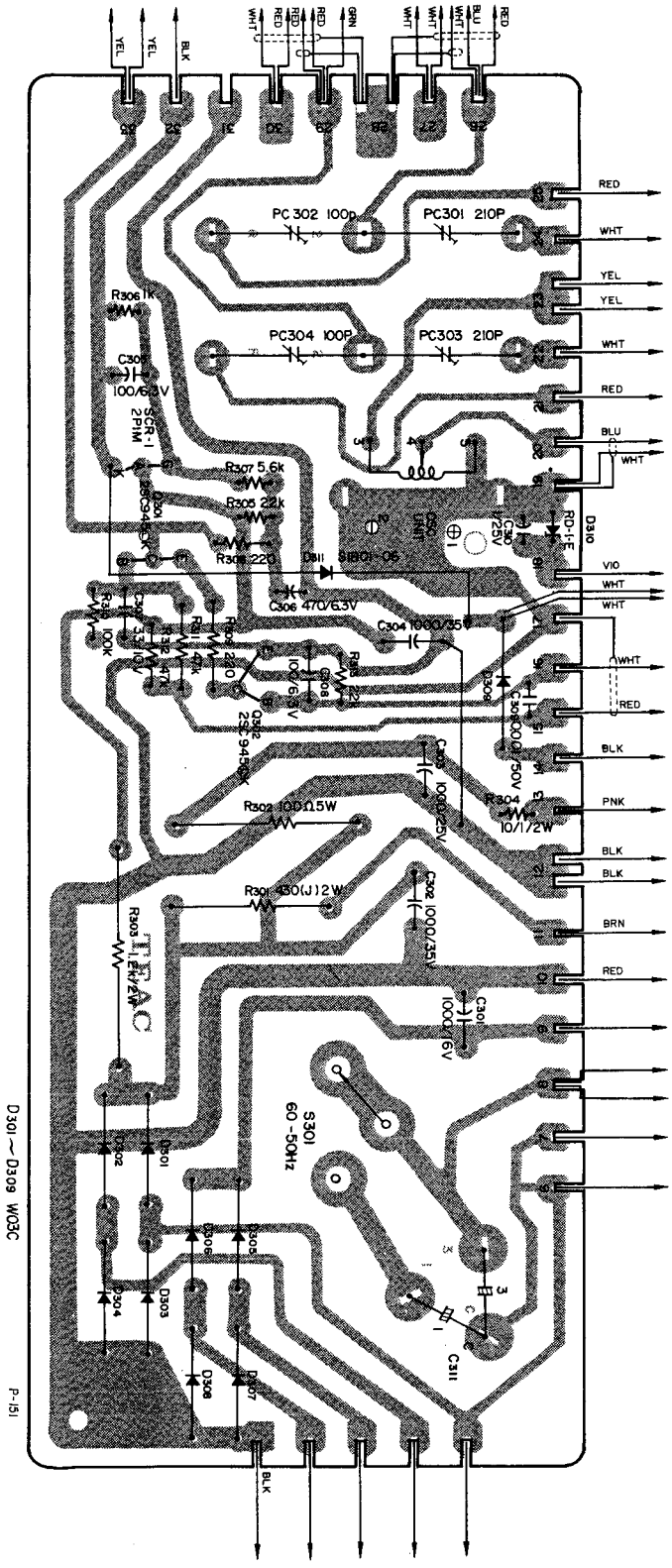
REF. NO.		PARTS NO.	DESCRIPTION	REMARKS
4- 1		55030250	Counter Assy	
4- 2	*	55542491	Plate, Counter	
4- 3	*	51681890	PC Board Assy, Reed SW	
4- 4		71111900	Cushion, Rubber	
4- 5	*	55530370	Bracket, Power Supply PC BoardAssy	
4- 6		51681760	PC Board Assy, Power Supply	
4- 7	*	55542900	Shield Paper, Side	
4- 8	*	55542410	Base Plate, Auto Stop	
4- 9		50630070	Solenoid	
4-10	*	50845211	Shaft, Auto Stop Lever	
4-11	*	55542420	Lever, Auto Stop	
4-12		50846200	Spring, Solenoid	
4-13	*	50452530	Terminal Strip (2L3P)	
4-14	*	55542450	Bracket, Lamp: B	
4-15		51420920	Lamp, Pilot	
4-16		51650030	VU Meter	
4-17	*	55305400	Dust Sealing Tape	
4-18	*	55530380	Plate, VU Meter	
4-19	*	55542440	Bracket, Lamp; A	
4-20		51420860	Lamp (VU Meter)	
4-21	*	50451280	Plate, Connector Assy	
4-22	*	55300470	Strain Relief, AC Cord	
4-23	*	50332850	Grommet, Plastic	
4-24	*	55510040	Chassis Assy, Main	
4-25	*	55340410	Clamp, Wire; A	
4-26		51380000	SW, Rocker; Power (S502)	DM, EX
		51380010	SW, Rocker; Power (S502)	TCA
		51380020	SW, Rocker; Power (S502)	
4-27		50529050	Spark Killer, 0.1μF + 120Ω 400V (C501)	DM
		50529060	Spark Killer, 0.1μF + 120Ω 400V,(C501)	TCA
		50529070	Spark Killer, 0.01μF + 300Ω 400V (C501)	EX
		51890010	Spark Killer, 4700pF (C501)	EUROPE
4-28	*	55500790	Boot, Control Switch	
4-29	*	50471652	Cord, AC	DM, EX
	*	50471661	Cord, AC	TCA
	*	51280170	Cord, AC	EUROPE
4-30	*	51681800	PC Board Assy, Lever SW	
4-31	*	55542430	Angle, PC Board	
4-32	*	51260140	Terminal, Power Cord Connecting	
4-33	*	55040740	Lever Assy, SW Actuator	
4-34		51320080	SW, Lever ; BIAS, EQ (S507, S508)	
4-35		51320070	SW, Lever ; INPUT (S505)	
4-36		51320090	SW, Lever ; DOLBY NR (S506)	
4-37		50446530	SW, Sensing (S503)	
4-38		51240150	Jack Assy	
4-39	*	55542580	Shield Paper, Jack Assy	
4-40		51501140	Pot., Slide Type; 100kΩA x 2 RECORD	
4-41		50535231	Pot., Slide Type; 20kΩA x 2 OUTPUT	
4-42		51681750	PC Board Assy, Record/Playback Ampl.	
4-43	*	55542571	Shield Paper, Record/Playback Ampl.	
4-44	*	51330080	Voltage Selector	EX
	*	51330040	Voltage Selector	EUROPE
4-45	*	55542470	Plate, Voltage Selector	EX, EUROPE
4-46	*	50412340	Holder, Fuse	EX
4-47		50411010	Fuse, 1A (F501)	EX
		50411130	Fuse, 0.5A (F501)	EX
4-48		51520320	Transformer, Power (T501)	DM
		51520330	Transformer, Power (T501)	TCA
		51520350	Transformer, Power (T501)	EX
		51520360	Transformer, Power (T501)	EUROPE
4-49	*	55542590	Sheet, Insulating	
4-50	*	51681780	PC Board Assy, Fuse	
4-51		51420880	Fuse, Miniature; 250mA 250V	
4-52	*	55340840	Clamp, AC Cord	
4-53	*	55542460	Bracket, Clamp	

PC BOARD SECTION (Diagram)

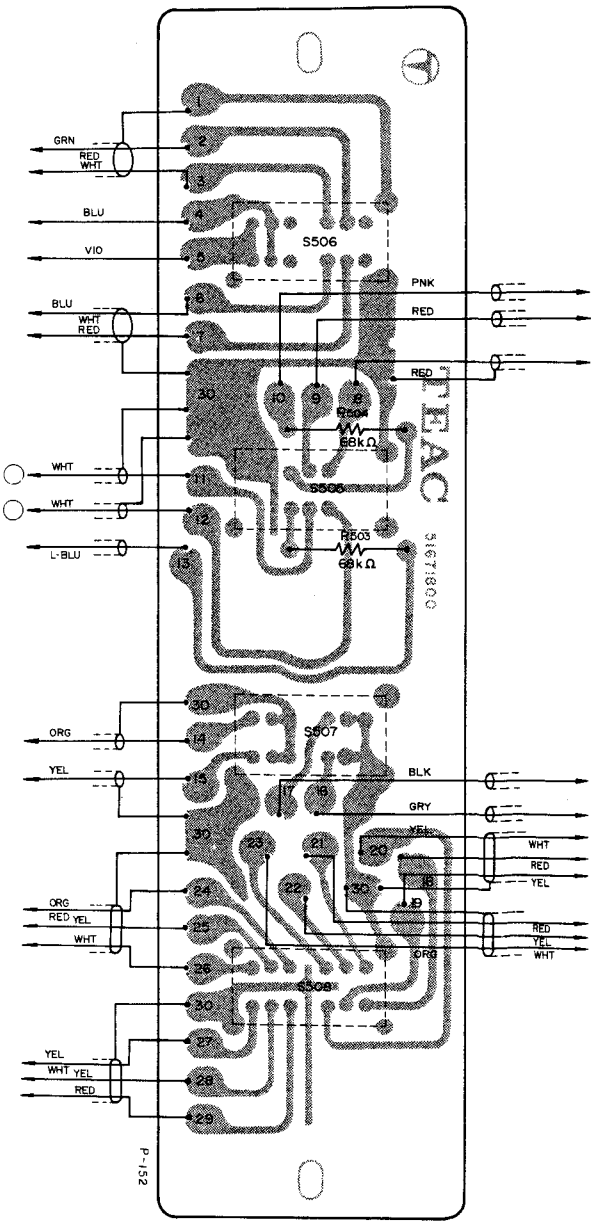
1. RECORD / PLAYBACK AMPLIFIER



2. POWER SUPPLY



3. LEVER SWITCH



PC BOARD SECTION (Parts List)

1. RECORD / PLAYBACK AMPLIFIER

REF. NO.	PARTS NO.	DESCRIPTION
	51681750	PC Bd. Assy
	51671750	PC Board (only)
		DOLBY IC's
IC101/IC201	50427280	NE545B
		TRANSISTORS
Q101/Q201	51450340	2SC900-UA
Q102/Q202	51450340	2SC900-UA
Q103/Q203	51450360	2SC945L-K
Q104/Q204	51450360	2SC945L-K
Q105/Q205	51450360	2SC945L-K
Q106/Q206	51450360	2SC945L-K
		DIODES
D101/D202	50422130	IN60
		CARBON RESISTORS
		All resistors are rated ±5% tolerance, 1/4 watt and of carbon type unless otherwise noted.
R101/R201	50570700	330Ω
R102/R202	50571180	33kΩ
R103/R203	50571260	68kΩ
R104/R204	50571370	220kΩ
R105/R205	50570700	330Ω
R106/R206	50570760	560Ω
R107/R207	50571000	5.6kΩ
R108/R208	50571160	27kΩ
R109/R209	50571260	68kΩ
R110/R210	50571200	39kΩ
R111/R211	50570700	330Ω
R112/R212	50570920	2.7kΩ
R113/R213	50570940	3.3kΩ
R114/R214	50571340	180kΩ
R115/R215	50570940	3.3kΩ
R116/R216	50516290	390Ω 1/2W 10%
R117/R217	50570810	1kΩ
R118/R218	50570640	180Ω
R119/R219	50570640	180Ω
R120/R220	50571140	22kΩ
R121/R221	50571180	33kΩ
R122/R222	50570940	3.3kΩ
R123/R223	50571220	47kΩ
R124/R224	50571300	100kΩ
R125/R225	50570600	120Ω
R126/R226	50571500	680kΩ
R127/R227	50571340	150kΩ
R128/R228	50571400	270kΩ
R129/R229	50573200	39kΩ
R130/R230	50571460	470kΩ
R131/R231	50571280	82kΩ
R132/R232	50570940	3.3kΩ
R133/R233	50570800	820Ω
R134/R234	50571300	100kΩ

REF. NO.	PARTS NO.	DESCRIPTION
R135/R235	50571340	150kΩ
R136/R236	50571520	820kΩ
R137/R237	50571280	82kΩ
R138/R238	50570660	220Ω
R139/R239	50570940	3.3kΩ
R140/R240	50571300	100kΩ
R141/R241	50570640	180Ω
R142/R242	50571500	680kΩ
R143/R243	50570960	3.9kΩ
R144/R244	50570980	4.7kΩ
R145/R245	50570960	3.9kΩ
R146/R246	50571500	680kΩ
R147/R247	50571200	39kΩ
R148/R248	50570820	1kΩ
R149/R249	50570540	68Ω
R150/R250	50571140	22kΩ
R151/R251	50570760	560Ω
R252	50527050	Metal Film 470Ω 2W
R153/R253		(not used)
R154/R254	50570700	330Ω
R155/R255	50571060	10kΩ
R156/R256	50570820	1kΩ
		CAPACITORS
C101/C201	50547470	Dip. Mica 680pF 50V 10%
C102/C202	51700770	Elec. 10μF 16V (LR)
C103/C203	50547440	Dip. Mica 100pF 50V 10%
C104/C204	50547420	Dip. Mica 47pF 50V 10%
C105/C205	50554050	Elec. 10μF 16V
C106/C206	50555540	Elec. 47μF 10V
C107/C207	50548910	Mylar 0.0047μF 50V 5%
C108/C208	50554540	Elec. 1μF 50V
C109/C209	50548970	Mylar 0.018μF 50V 5%
C110/C210		(not used)
C111/C211	50548450	Mylar 0.0022μF 50V 10%
C112/C212	50554960	Elec. 330μF 25V
C113/C213	50554390	Elec. 220μF 16V
C114/C214	51703000	Dip. Tant. 0.33μF 35V 10%
C115/C215	50596800	Polyst. 3300pF 50V 5%
C116/C216	50543990	Polyst. 1800pF 50V 5%
C117/C217	50596810	Polyst. 3000pF 50V 5%
C118/C218	50554050	Elec. 10μF 16V
C119/C219	50554050	Elec. 10μF 16V
C120/C220	50548920	Mylar 0.0056μF 50V 5%
C121/C221	50548910	Mylar 0.0047μF 50V 5%
C122/C222	50548990	Mylar 0.027μF 50V 5%
C123/C223	50554050	Elec. 10μF 16V
C124/C224	50555540	Elec. 47μF 10V
C125/C225	50554050	Elec. 10μF 16V
C126/C226	50547380	Mylar 0.047μF 50V 5%
C127/C227	50554050	Elec. 10μF 16V
C128/C228	50548040	Mylar 0.1μF 50V 10%
C129/C229	51703000	Dip. Tant. 0.33μF 35V 10%
C130/C230	50554970	Elec. 0.47μF 50V
C131/C231	51700850	Elec. 0.47μF 50V (LR)
C132/C232	50554050	Elec. 10μF 16V
C133/C233	50554050	Elec. 10μF 16V
C134/C234	50547420	Dip. Mica 47pF 50V 10%
C135/C235	50554540	Elec. 1μF 50V
C136/C236	50554540	Elec. 1μF 50V

REF. NO.	PARTS NO.	DESCRIPTION			
C137/C237	50549650	Elec.	0.47μF	25V	(KU)
C138/C238	50554050	Elec.	10μF	16V	
C139/C239	51700850	Elec.	0.47μF	50V	(LR)
C140/C240	*50547450	Dip. Mica	220pF	50V	10%
C141/C241	50548980	Mylar	0.022μF	50V	5%
C142/C242	50548870	Mylar	0.015μF	50V	5%
C143	50554420	Elec.	470μF	25V	
*Interchangeable with:					
C140/C240	50543420	Polyst.	220pF	50V	10%

VARIABLE RESISTORS

VR101/VR201	50534490	Semi-fixed, 100kΩ-B
VR102/VR202	50534490	Semi-fixed, 100kΩ-B
VR103/VR203	50534480	Semi-fixed, 50kΩ-B
VR104/VR204	50534480	Semi-fixed, 50kΩ-B

COILS/TRANSFORMERS

L101/L201	50566611	Coil, Choke;	1.2mH	
L102/L202	50566660	Coil, Choke;	38mH	5% (Fixed)
L103/L203	50566650	Coil, Choke;	23mH	(Adjustable)
L104/L204	50566550	Coil, Trap;	12mH	
L105/L205	50566350	Coil, Record EQ; 8mH		
T101/T201	50562260	Transformer, Output; 3kΩ:8Ω		

MISCELLANEOUS

S101	51310290	SW, Slide 16PDT
	57240420	Pin, F3 Type (3 used)
	55542600	Plate, Shield; A
	51470160	Socket, IC; 16P

2. POWER SUPPLY

REF. NO.	PARTS NO.	DESCRIPTION
	51681760	PC Bd. Assy
	51671760	PC Board (only)

TRANSISTORS

Q301,Q302	51450360	2SC945L-K

SCR

SCR-1	51430900	2PIM

REF. NO.	PARTS NO.	DESCRIPTION			

DIODES

D301~D309	51430890	W03C
D310	51430860	Zener, RD-13E
D311	50422570	SIB01-06

RESISTORS

R301	50578730	Metal Film	430Ω	2W	5%
R302	50520290	Cement	100Ω	5W	
R303	50527340	Metal Film	1.2kΩ	2W	
R304	50516090	Carbon	10Ω	1/2W	10%
R305	50571140	Carbon	22kΩ	1/4W	5%
R306	50570820	Carbon	1kΩ	1/4W	5%
R307	50571000	Carbon	5.6kΩ	1/4W	5%
R308,R309	50570660	Carbon	220Ω	1/4W	5%
R310	50571300	Carbon	100kΩ	1/4W	5%
R311,R312	50571220	Carbon	47kΩ	1/4W	5%
R313	50571140	Carbon	22kΩ	1/4W	5%

CAPACITORS

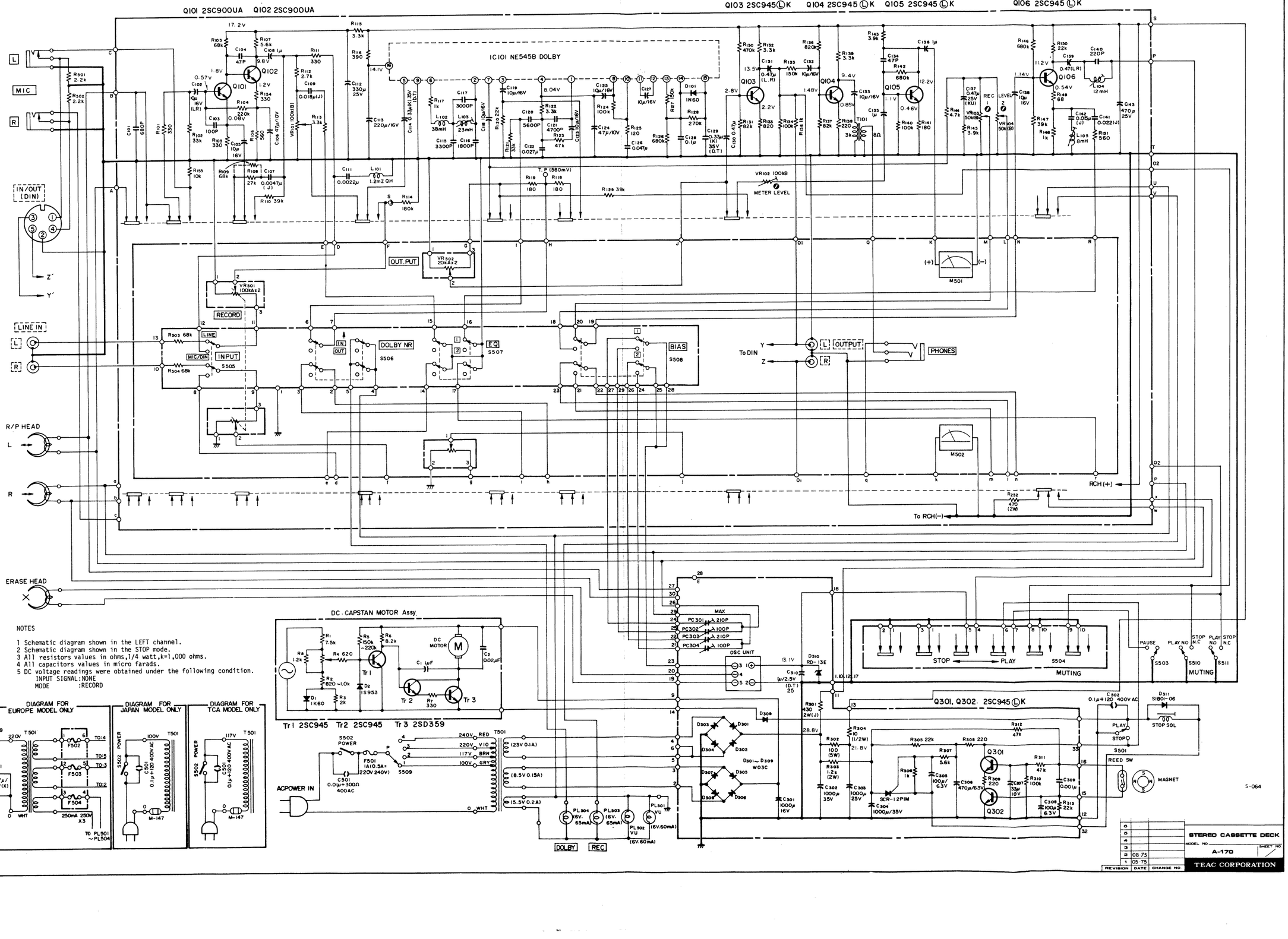
C301	50554890	Elec.	1000μF	16V	
C302,C304	51700110	Elec.	1000μF	35V	(SL)
C303	50555580	Elec.	1000μF	25V	
C305,C308	50554230	Elec.	100μF	6.3V	
C306	50554600	Elec.	470μF	6.3V	
C307	50554240	Elec.	33μF	10V	
C309	50548320	Mylar	0.001μF	50V	10%
C310	50546890	Dip. Tant.	1μF	25V	

TRIMMER CAPACITORS

PC301,PC303	50547060	210pF Max.
PC302,PC304	50547070	100pF Max.
	50400810	Oscillator Unit, 100kHz

3. LEVER SWITCH

REF. NO.	PARTS NO.	DESCRIPTION			
	51681800	PC Bd. Assy			
	51671800	PC Board (only)			
S505	51320070	Switch, Lever; DPDT			
S506	51320090	Switch, Lever; 4PDT			
S507,S508	51320080	Switch, Lever; 4PDT			
R503,R504	50573260	Carbon	68kΩ	1/4W	5%



NOTES

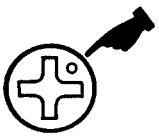
1 Schematic diagram shown in the LEFT channel.
2 Schematic diagram shown in the STOP mode.
3 All resistors values in ohms,1/4 watt,k=1,000 ohms.
4 All capacitors values in micro farads.
5 DC voltage readings were obtained under the following condition.
INPUT SIGNAL:NONE
MODE :RECORD

REVISION	DATE	CHANGE NO
6		
5		
4		
3		
2	08.75	
1	05.75	

STEREO CASSETTE DECK
MODEL NO. A-170
SHEET NO
TEAC CORPORATION

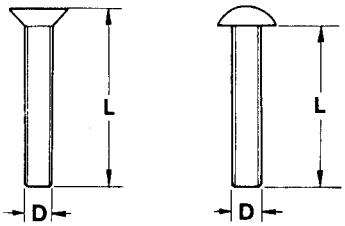
ASSEMBLING HARDWARE CODING LIST

All screws conform to ISO standards, and have cross-recessed heads, unless otherwise noted.
ISO screws have the head inscribed with a point as in the figure to the right.



FOR EXAMPLE:

B M3 x 6
- Length in mm (L)
- Diameter in mm (D)
- Type of Head



	Code	Full Name	Type
MACHINE SCREW	R	Round Head Screw	
	P	Pan Head Screw	
	T	Stove Head Screw (Truss)	
	B	Binding Head Screw	
	F	Flat Countersunk Head Screw	
	O	Oval Countersunk Head Screw	
WOOD SCREW	RW	Round Head Wood Screw	
	FW	Flat Countersunk Wood Screw	
	OW	Oval Countersunk Wood Screw	
SEMS SCREW	BSA	Binding Head SEMS Screw(A Type)	
	BSB	Binding Head SEMS Screw(B Type)	
	BSF	Binding Head SEMS Screw(F Type)	
	PSA	Pan Head SEMS Screw(A Type)	
	PSB	Pan Head SEMS Screw(B Type)	

	Code	Full Name	Type
TAPPING SCREW	BTA	Binding Head Tapping Screw(A Type)	
	BTB	Binding Head Tapping Screw(B Type)	
	RTA	Round Head Tapping Screw(A Type)	
	RTB	Round Head Tapping Screw(B Type)	
SETSCREW	SF	Hex Socket Setscrew(Flat Point)	
	SC	Hex Socket Setscrew(Cup Point)	
	SS	Slotted Socket Setscrew(Flat Point)	
WASHER	E	E-Ring (Retaining Washer)	
	W	Flat Washer (Plain)	
	SW	Lock Washer (Spring)	
	LWI	Lock Washer (Internal Teeth)	
	LWE	Lock Washer (External Teeth)	
	TW	Trim Washer (Countersunk)	
NUT	N	Hex Nut	

1-310